

Market Insights: European Packaging Sector

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at Smithers

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Packaging Event 9th March 2023

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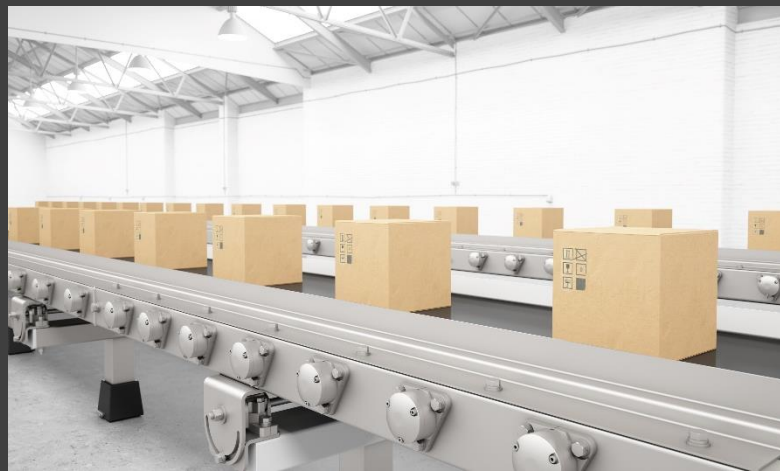
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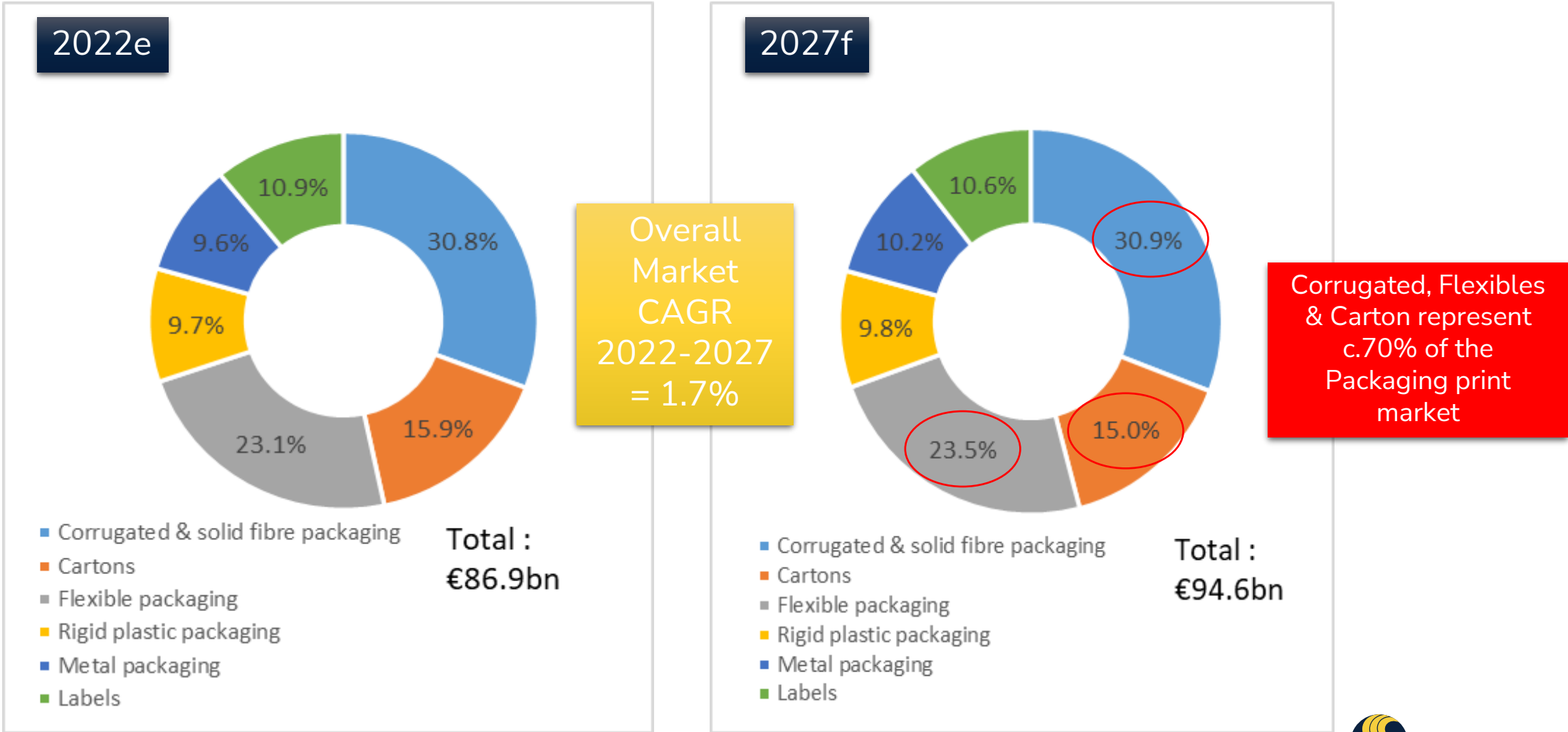
Packaging in Europe

The market is vast and spans several raw materials & formats used across a wide range of market sectors.

- Corrugated boxes
- Cartons/sleeves
- Flexible packaging (plastic, paper & aluminium foil)
- Rigid plastics
- Metal containers



Context: European Package & Label Printing Output by Type, 2022e and 2027f (% share by value, constant 2021 price and € exchange rate basis)



5 Countries include the EU27 + UK, Norway, and Switzerland.

A close-up photograph of a wooden tray filled with metal type blocks. The word "TRENDS" is spelled out in large, bold, serif capital letters. The tray is made of light-colored wood and has a metal fastener visible on the left side. The background is a blurred wooden surface.

TRENDS

1. Sustainability
2. Growth in E-commerce
3. Consumer Attitudes & Lifestyles
4. Automation & Digitalisation
5. Packaging Innovation



1. Sustainability

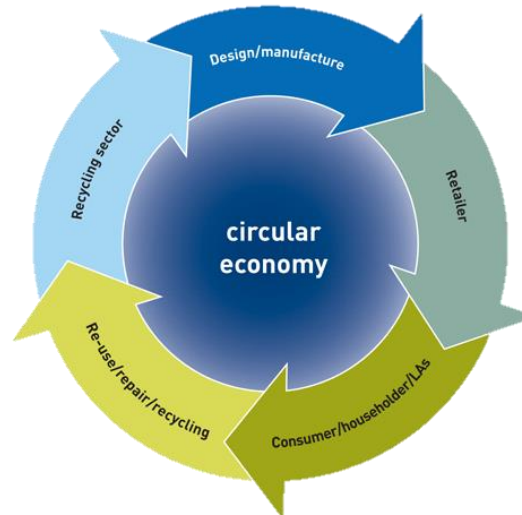


UN High Seas Treaty – 15 years in the making

- The first major ocean treaty in **40 years**
 - 1982 - the UN Convention on the Law of the Sea. An agreement established an area called the **high seas** - international waters where all countries have a right to fish, ship and do research
 - Only 1.2% of these waters are protected.
- Why?
 - In the latest assessment of global marine species, nearly **10% were found to be at risk of extinction**, according to the IUCN.
- Objectives?
 - 30% of the seas to be protected areas by 2030
 - Limits on how much fishing can take place, the routes of shipping lanes and exploration activities like deep sea mining - when minerals are taken from a sea bed 200m or more below the surface.
- Why so slow?
 - Negotiations over the sharing of **marine genetic resources** - biological material from plants and animals in the ocean that can have societal benefits by use in pharmaceuticals, industrial processes and food.
 - Richer nations have the resources and funding to explore the deep ocean, poorer nations wanted to ensure any benefits they find are **shared equally**.



1. The Waste Hierarchy



2. The Circular Economy Model



3. Reducing the use of Fossil Fuels



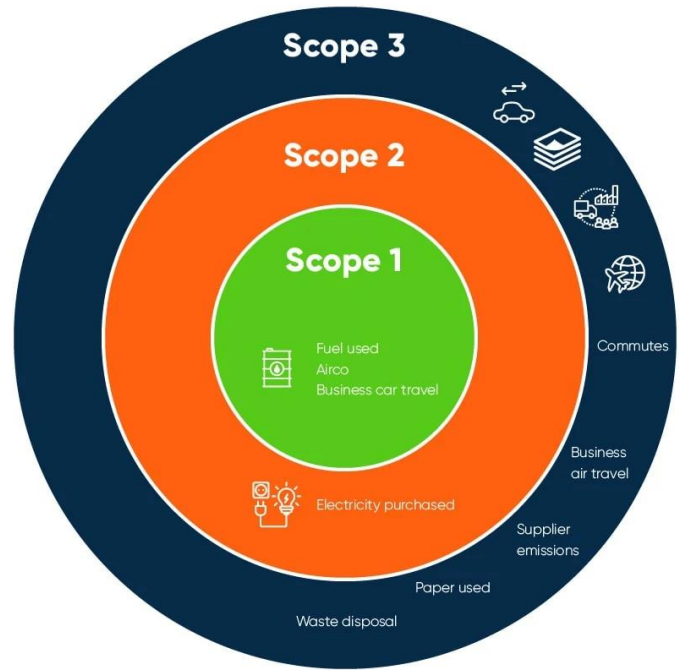
4. Eliminate Greenwashing

Reducing the environmental impact of packaging is crucial going forward

A full assessment of the packaging's entire lifecycle must be considered



Waste reduction targets



Scope 1,2&3 emissions targets



The race to "Net Zero"

Leading Brand Owners have committed to progressive macro level operational environmental targets to meet the UN Sustainable Development Goals – and expect suppliers to comply

Many major brand owners and large retail chains have announced sustainability targets in relation to packaging, typically a commitment to make 100% of packaging reusable or easily recyclable by 2030

There are some clear examples of this activity

Company	Goal/Initiative
	<ul style="list-style-type: none"> • Collect or recycle 1 bottle/can for every one sold by 2030 • All packaging is 100% recyclable by 2025 - and 50% of all material used in packaging to be from recycled (polymer) by 2030. • 25% of their volume globally to be refillable/reusable by 2030 (set in 2022)
	<ul style="list-style-type: none"> • By 2030, 100% of the plastic used in their packaging will be either from recycled or biobased sources (they aim to reach 50% in 2025)
	<ul style="list-style-type: none"> • 100% of Nestle packaging will be recyclable or reusable by 2025 • The use of virgin plastics will be reduced by 1/3rd by 2025
	<ul style="list-style-type: none"> • 90% of product packaging is either recyclable or programs are in place to create the ability to recycle it (achieved in 2020) – target is 100% by 2030 • Reduce the use of virgin plastic in packaging by 50% by 2030
	<ul style="list-style-type: none"> • 100% recyclable plastic packaging by 2025 • 50% virgin plastic reduction by 2025, including an absolute reduction of 100,000 tonnes
	<ul style="list-style-type: none"> • Zero waste to landfill by 2025 • 100% recyclable packaging on all private label brands by 2025



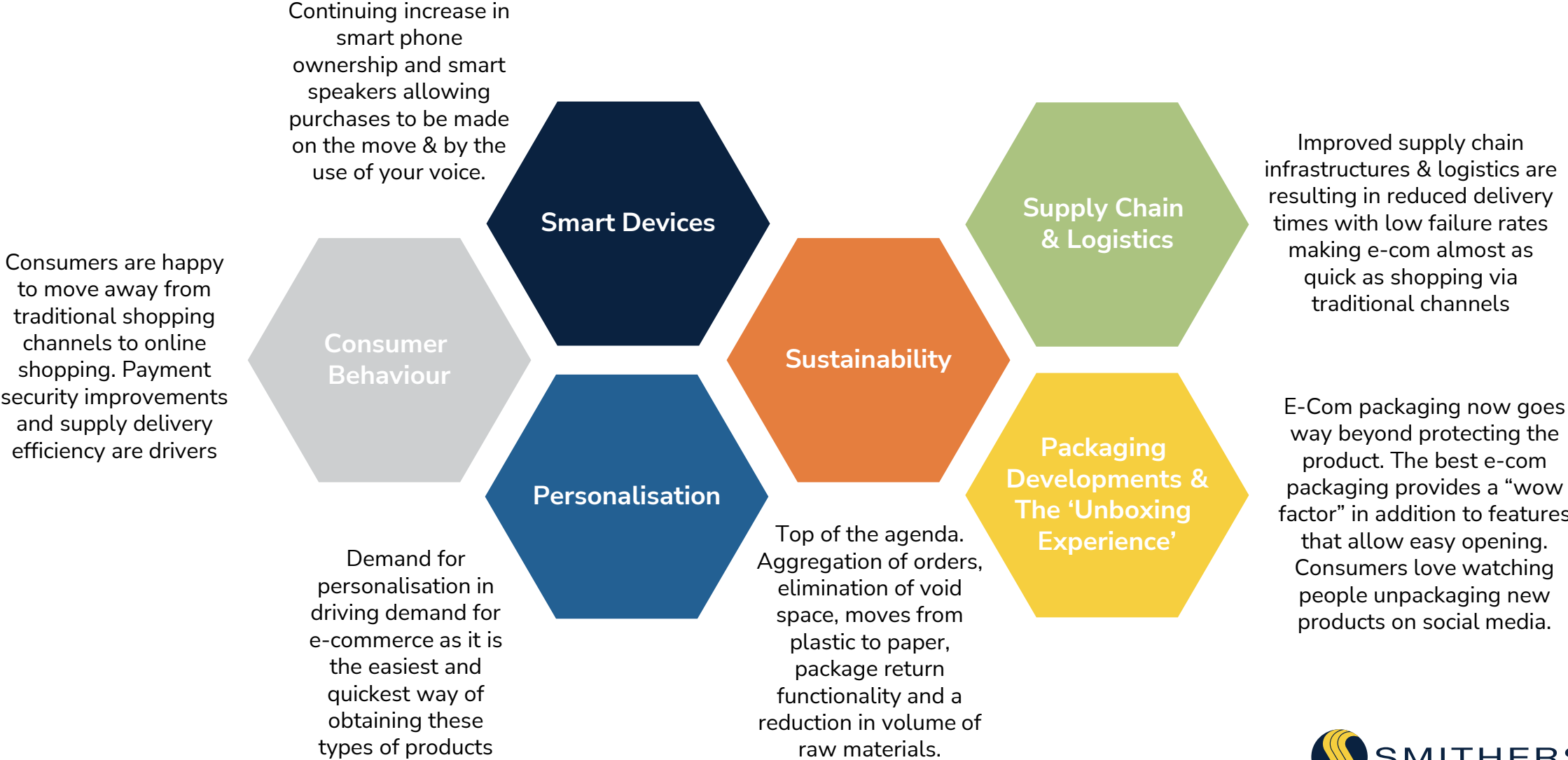
R PORTER



2. Growth in E-Commerce



E-Commerce is a Global Megatrend - several key factors driving this



Regionally - N.America is expected to see an increase in it's share of the global e-com packaging market over the next 5 years

Slowing population growth and maturity of the e-com market in Asia Pacific's largest markets is expected to see its share of the global e-com packaging market decline significantly over the next 5 years

N.America is expected to see the greatest gains as Europe flatlines

FIGURE E.3 World e-commerce packaging market split by region 2022

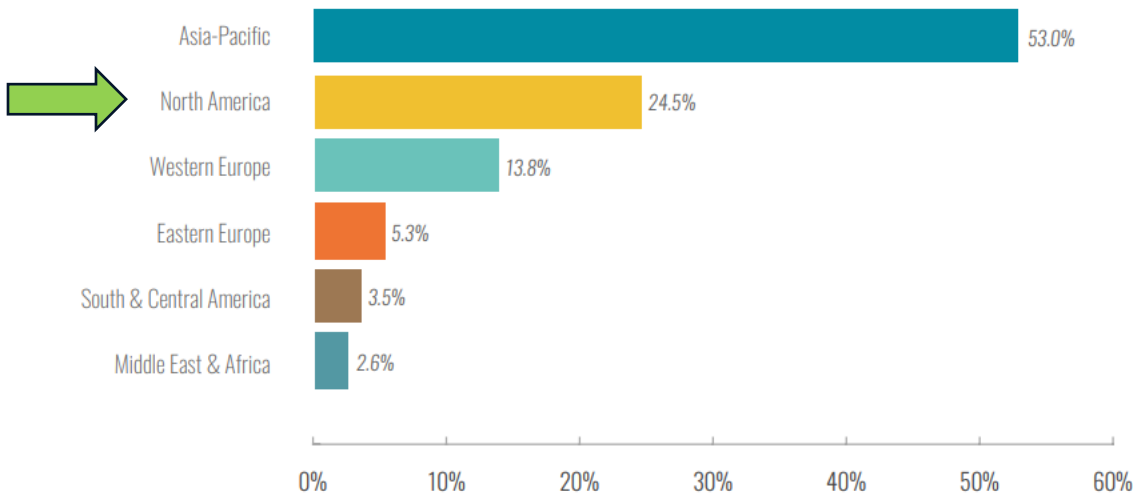
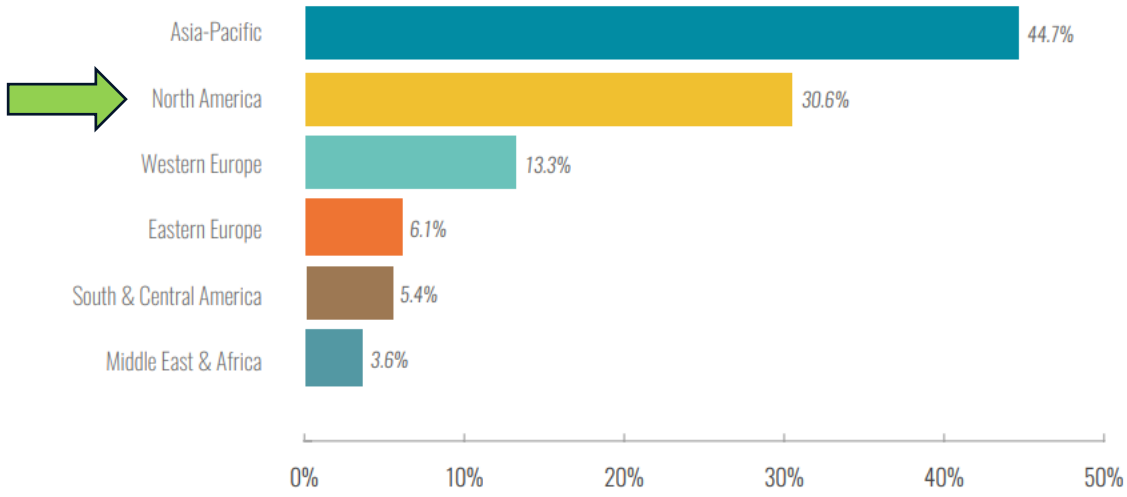


FIGURE E.4 World e-commerce packaging market split by region 2027



Source: Smithers

Source: Smithers

The e-com packaging market for W.Europe + E.Europe is valued at \$11.8bn in 2022
 (Source: Smithers Future of E-Com Packaging to 2027 Report)

In several European markets e-commerce sales now account for >20% of total retail sales, in the UK this is >30%

Automated box making machines reduce void space and aggregate e-com orders



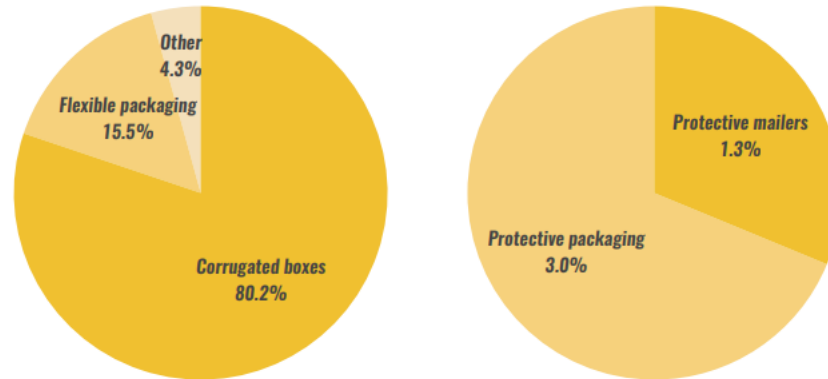
Source: CMC (Italy)



When a box isn't required, paper is becoming the material of choice for Brand Owners who want to offer consumers an easy to recycle package

E-Commerce will continue to grow faster than traditional retail

FIGURE E.1 World e-commerce packaging market split by packaging type 2022



Source: Smithers

The global e-commerce packaging market is valued at \$63.5bn – growing at 12.5% (2022). The market is forecast to grow at a CAGR of 9.8% to 2027

Ambient e-com packaging

The continued growth of corrugated packaging, plus the emergence of paper mailing bags, offers printers in this sector strong growth potential going forward

Corrugated 'Boxes'



Flexible Mailers



Protective Mailers



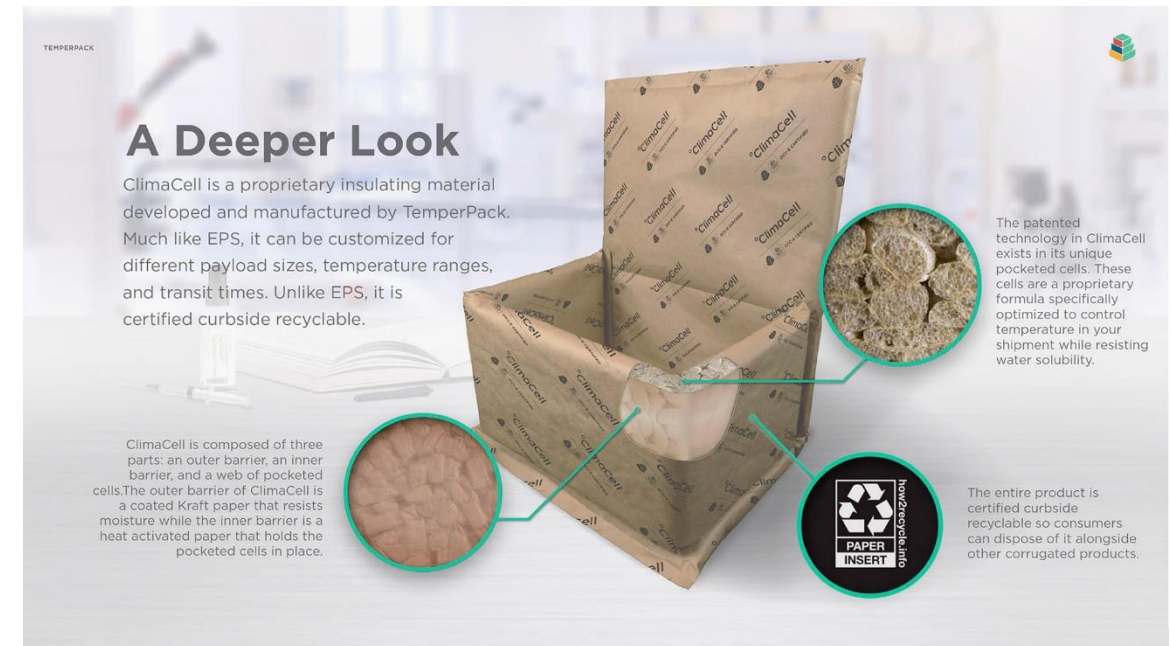
Protective Packaging & Void Fill



New Markets - Fibre Based, temperature-controlled e-com packaging for chilled & frozen food replacing EPS

A 'drop in' insulation solution that combines with a fully recyclable corrugated box

Product Name (Supplier)	Climacell (Temperpack, US)	
Product category	Insulation material for corrugated boxes	
Materials used	Kraft paper (outer) - renewable Corn starch (inner) - renewable (waste product)	
End of life solution	Asia	Recyclable if collected
	N.America	Curbside recyclable (validated)
	Europe	Curbside recyclable (validated)
Marketing claims	EPS substitute, great unboxing experience	
Sustainability claims	Lower CO2e than EPS & other comparable materials	
Product validation	Thermal Testing Lab - offers ISTA validation >40 million successful claimed deliveries	
Functional features	Pre-formed hinges to wrap around contents	



Outlook to 2027 – Packaging materials and formats

Demand for wood fibre based e-com packaging is expected to outpace that for plastic

1. Brand Owners will prioritise packaging that helps meet their **sustainability targets**
2. Protective packaging & void fill will use more **renewable, natural and organic materials**
3. Demand for **small bubble mailers** will slow but Amazon will drive growth for larger formats
4. **Paper mailing bags** will progressively take share from polybags
5. Suppliers of polybags will increase recycled content to meet **regulations**
6. Brand Owners will continue to trial **reusable packaging** but infrastructure challenges exist
7. Interest in **renewable and recyclable alternative materials** will increase

3. Consumer Attitudes & Lifestyles

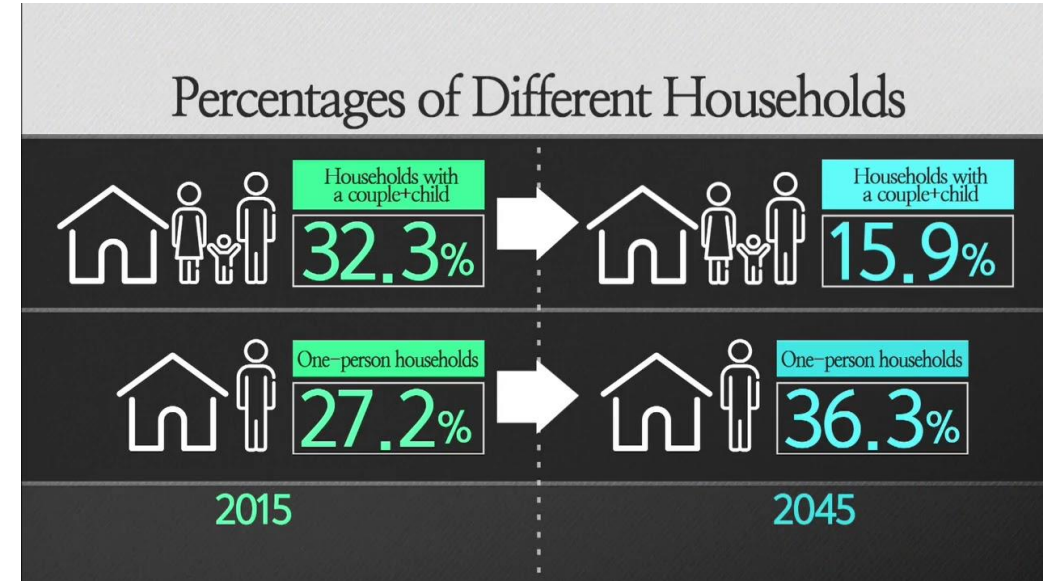


Consumers are changing and they are driving the packaging agenda



Consumers have greater environmental knowledge and packaging is now a key purchasing differentiator

S.Korea is an extreme example but changes in lifestyles are having a significant impact on packaging

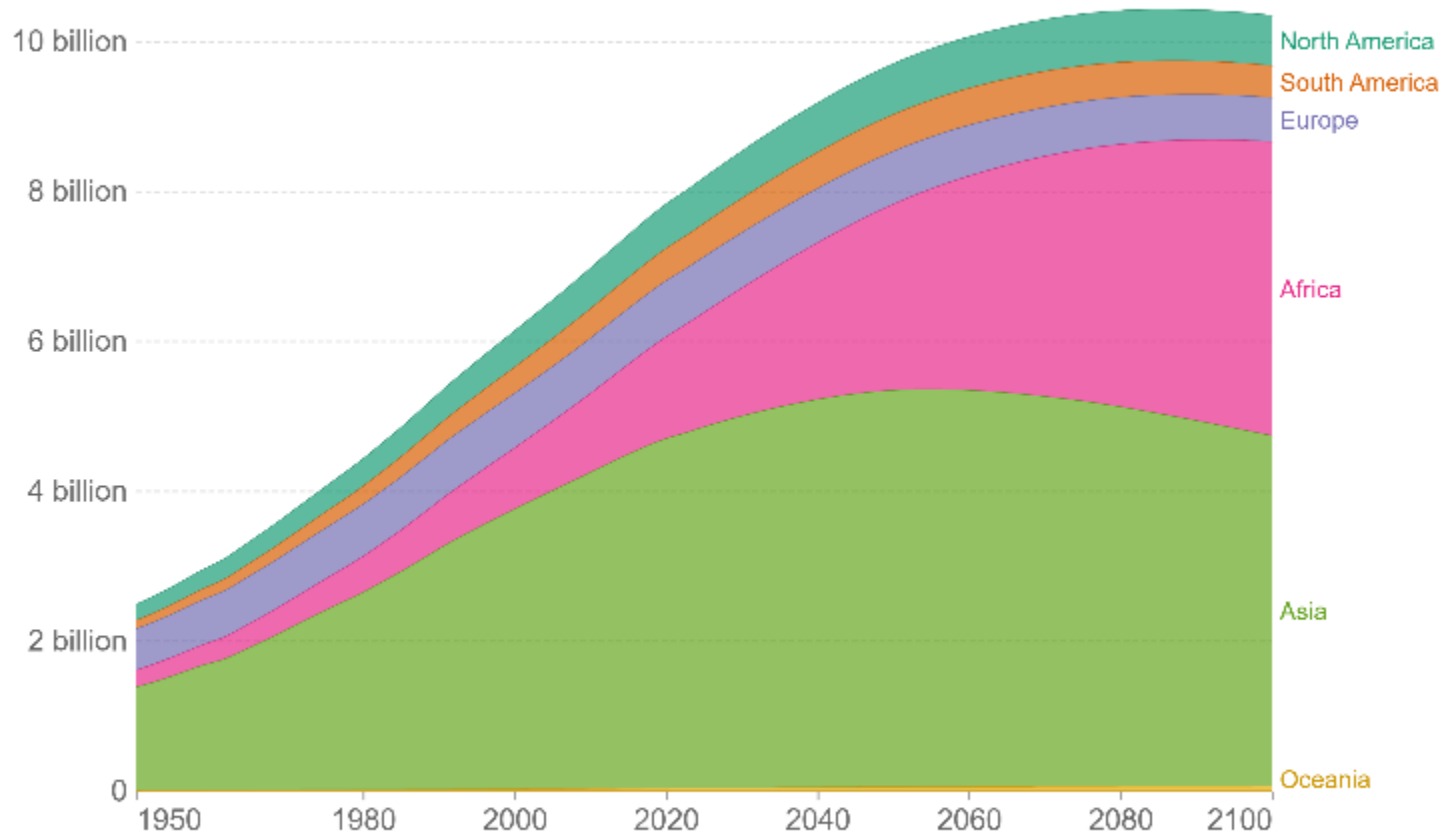


Convenience is key - consumers are increasingly “Cash rich, time poor” – a trend that is having a huge impact on food packaging

Accelerating urbanization and higher incomes drive packaging demand

World population by region

Projected population to 2100 is based on the UN's medium population scenario.



Source: HYDE (v3.2); Gapminder (v6); Food and Agriculture Organization of the United Nations; UN (2022)
OurWorldInData.org/world-population-growth • CC BY

Growing middle class with higher disposable incomes will be a big driver for packaging over the coming decade

More than 50% of the world's population now **live in urban areas** — increasingly in highly-dense cities

Urban areas typically have **higher waste collection rates**, & better recycling infrastructure which drives opportunities for “recycle ready” packaging

| Sustainability has a growing influence on consumer purchases

45% *have a more positive opinion of brands that use a limited amount or no plastics in their packaging*

42% *want to be seen as someone who buys eco-friendly products*

26% *can name a product or brand they've purchased – or not purchased – because of the environmental or social record of the manufacturer*

67% *believed companies should take responsibility for the end-of-life disposal of the products they manufacture*

Consumers have an anti-plastic sentiment and prefer alternatives

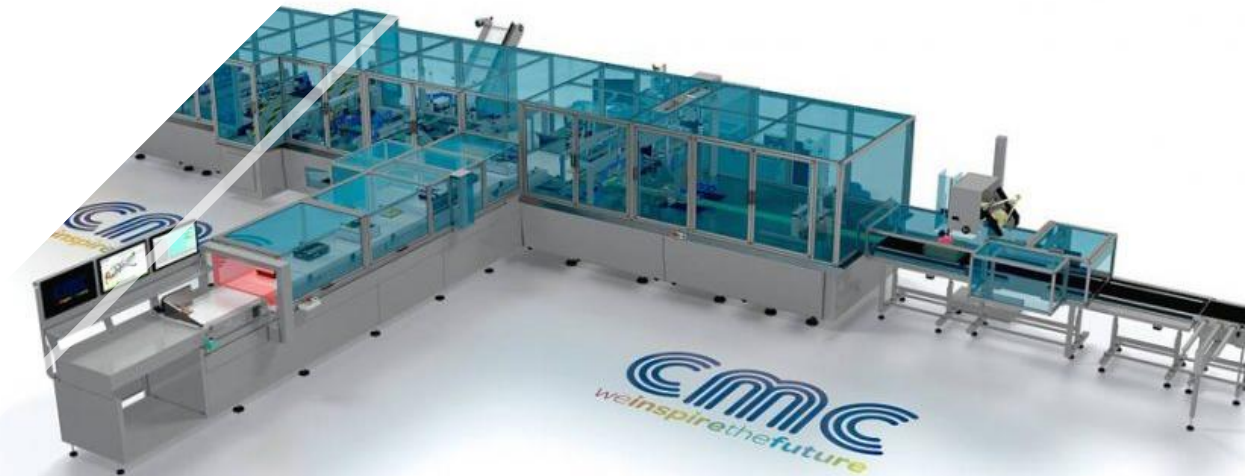
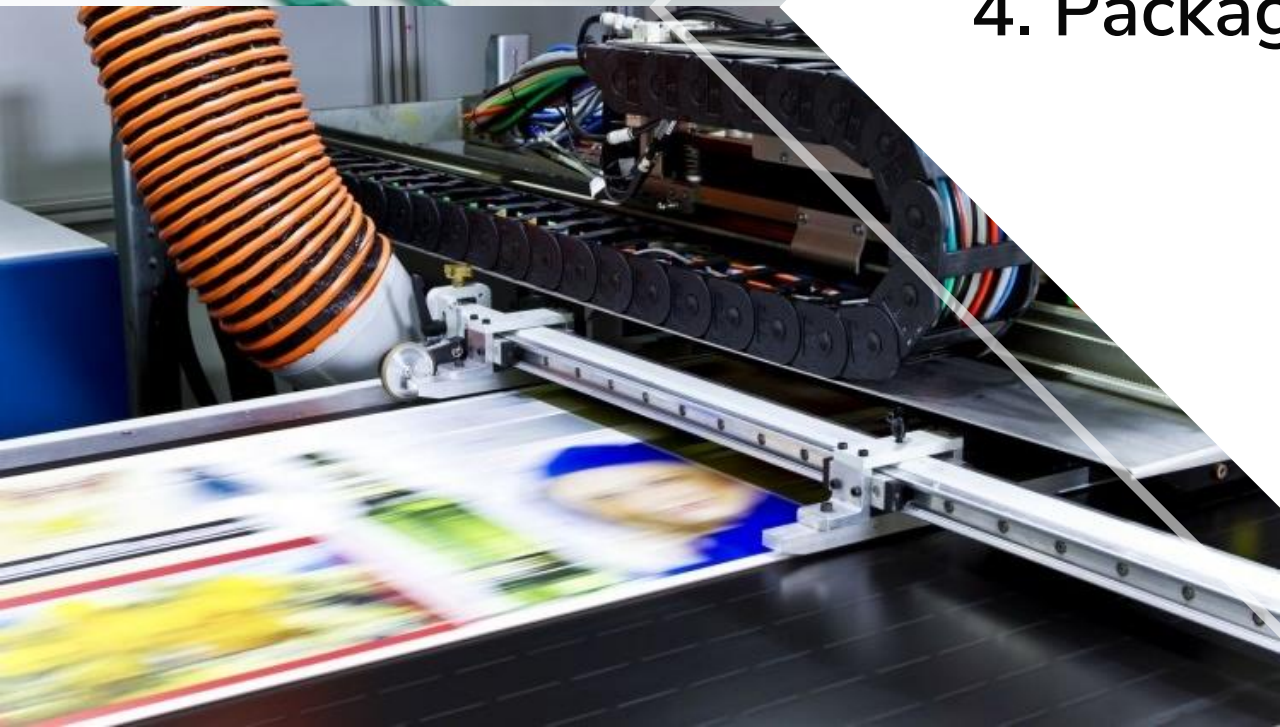
European consumers are looking for packaging made from **renewable and recyclable materials** with recovered/recycled content wherever possible

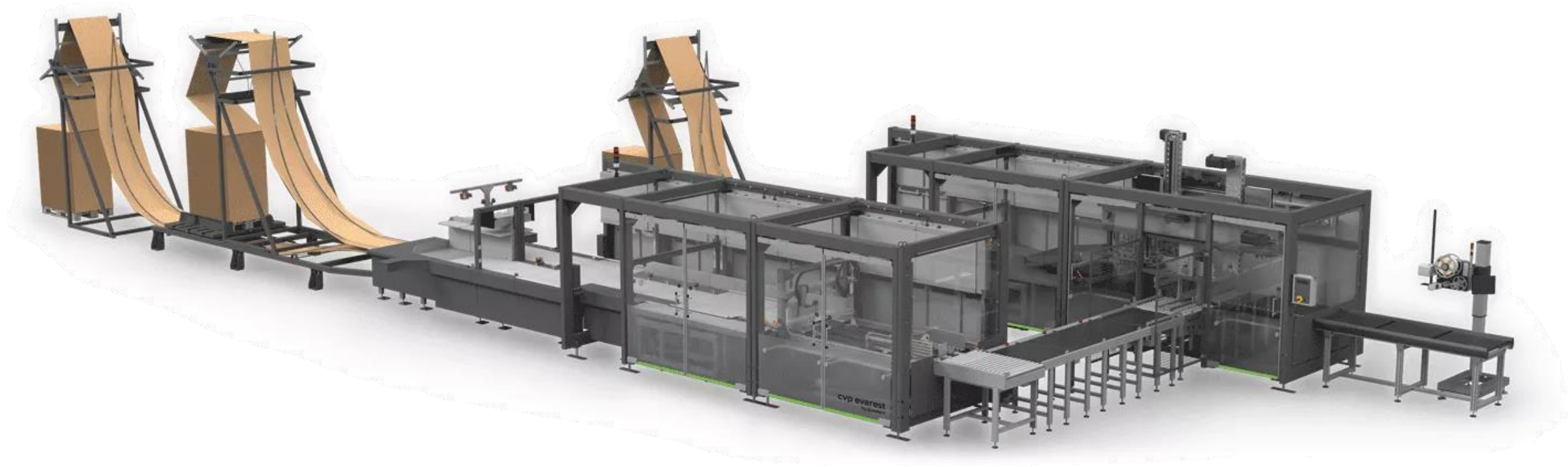
The Most Important Factors for Consumers When Considering the Environmental Impact of Packaging While Shopping





4. Packaging Automatisation & Digitalisation





Automated “Fit-to-size” Box Making Machines

Why box automation?

- Elimination of void fill
- Reduces packaging raw material (corrugated board)
- Headcount cost savings
- Fanfold corrugated is easy to store
- Speed (up to 1,000 boxes/hour)

Considerations

- Significant capital investment
- Warehouse infrastructure must be modern (storage & picking)
- Significant floor space required

Automated Polybag Machines

- Packages are made to size
 - no excess Polyethylene ('PE') raw material is used
- Bag length and width can be adjusted
- Packages can be adjusted in size to accommodate single and multiple-items
- Eliminates the bag converter
 - machinery is located at the premises of the retailer/brand owner
- Polybags can be made with an easy-opening perforation
 - double-sided adhesive tape for resealing (returns)
- Reduces # operators in fulfilment



Suppliers of Auto Polybag Machines include: Sealed Air Autobag, Hugo Beck servo X com

Automated Paper Mailing Bags

- The next generation paper mailing bag
- Building on the success of the pre-made paper mailing bag (H&M, Amazon etc)
 - An innovation that 'took off' in 2020
 - Billerud & Mondi the pioneers
- Paper is fed into the machine on reels
 - Paper is coated with a thin coating of PE for adhesion
 - Below the 5% threshold for reprocessing in paper mills
- Eliminates void space (PPWR compliant)
- No need for bag converters
- PE coating may deter some “making the switch” from Polybags

Example shown is a machine produced by SITMA (Italy), Sealed Air also have recently launched a coated paper machine

The value add of Digitalisation

It costs 5x more to win a new customer than it does to retain an existing customer.
Integrating digitalization into packaging can help retain customers and attract new buyers.



74%

Of consumers **rely on social networks** when making purchasing decisions



871%

The number of Youtube videos with '**unboxing**' in the title has increased by 871% since 2010.



RFID

Popular within food packaging. Allows packs to be tracked in the cold chain, but also customers see value now when companies add information as to the products journey.



Packvertising

Why not maximise the impact of the unboxing experience with advertising, tailored to the customer on pack? Another positive for digital printing



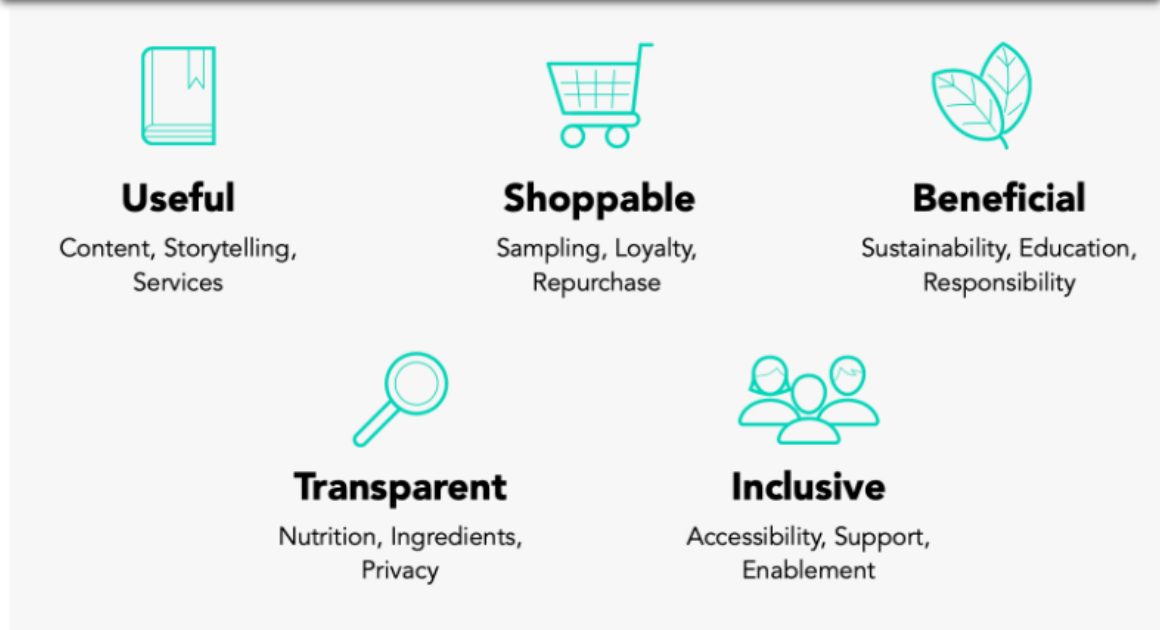
Think inside the box!

Printing within the box can come at an environmental saving if instructions product info is required. Further branding and advertising opportunity

Communicating with customers via digital channels allows brands to build valuable customer profiles that can be used to customise future marketing campaigns



5 key aspects that need to be considered for success in connected packaging.



Experience Pillars

Connected Packaging drives engagement with the consumer

The key elements required by consumers are **ease of use** and **benefits of information**.

*“The adoption of connected packaging will largely be driven by two things - **brand experience** (the person deploying connected packaging) and the **user experience** (the person engaging with the products). ”*

- Cameron Worth, Founder of SharpEnd

Stora Enso Intelligent E-Commerce Solutions

Custom solutions that can be designed around the requirements of the client

Product Name (Supplier)	Intelligent E-commerce Solutions (Stora Enso, Finland)	
Product category	Corrugated boxes with additional technology	
Materials used	Corrugated board	
End of life solution	Asia	100% recyclable
	N.America	100% recyclable
	Europe	100% recyclable
Marketing claims	Rightweighting services for optimised warehouse and transport capacity, improved shelf-space utilisation and rationalised in-store handling	
Sustainability claims	Sustainable packaging material that is fully recyclable at end of life	
Product validation	Not stated	
Functional features	Integrated RFID that captures data, increase fulfilment efficiency	



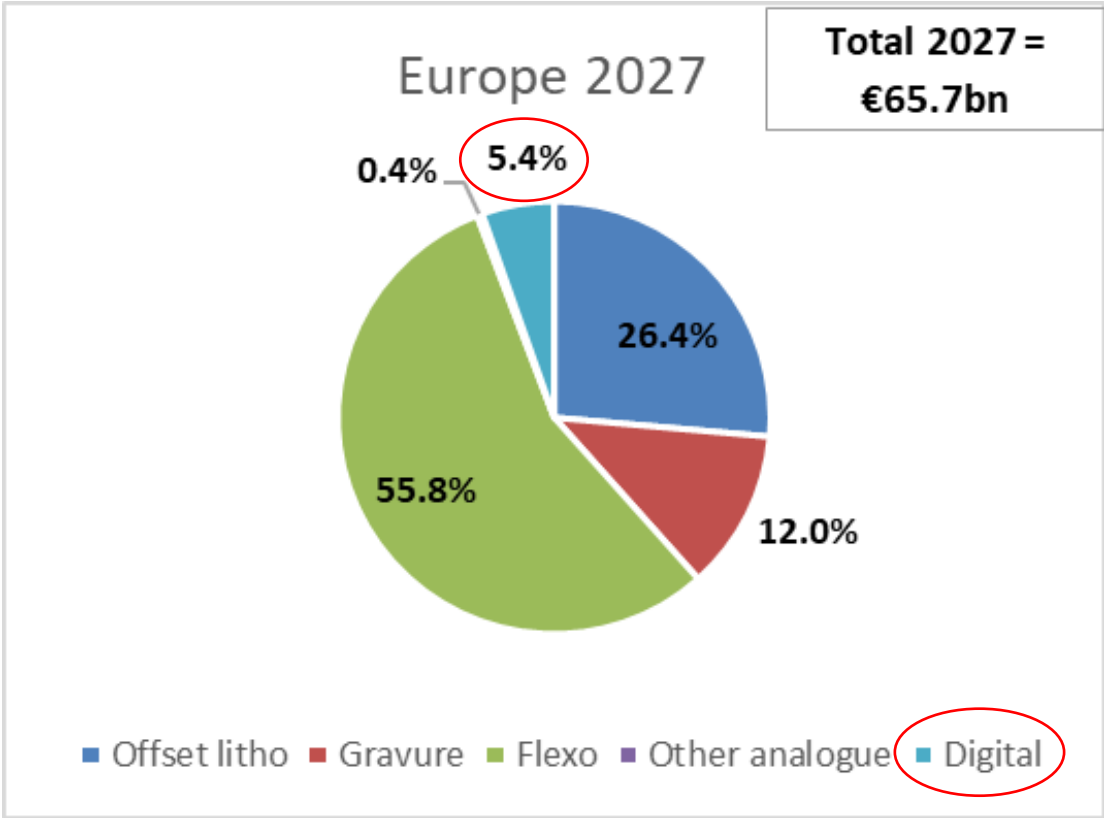
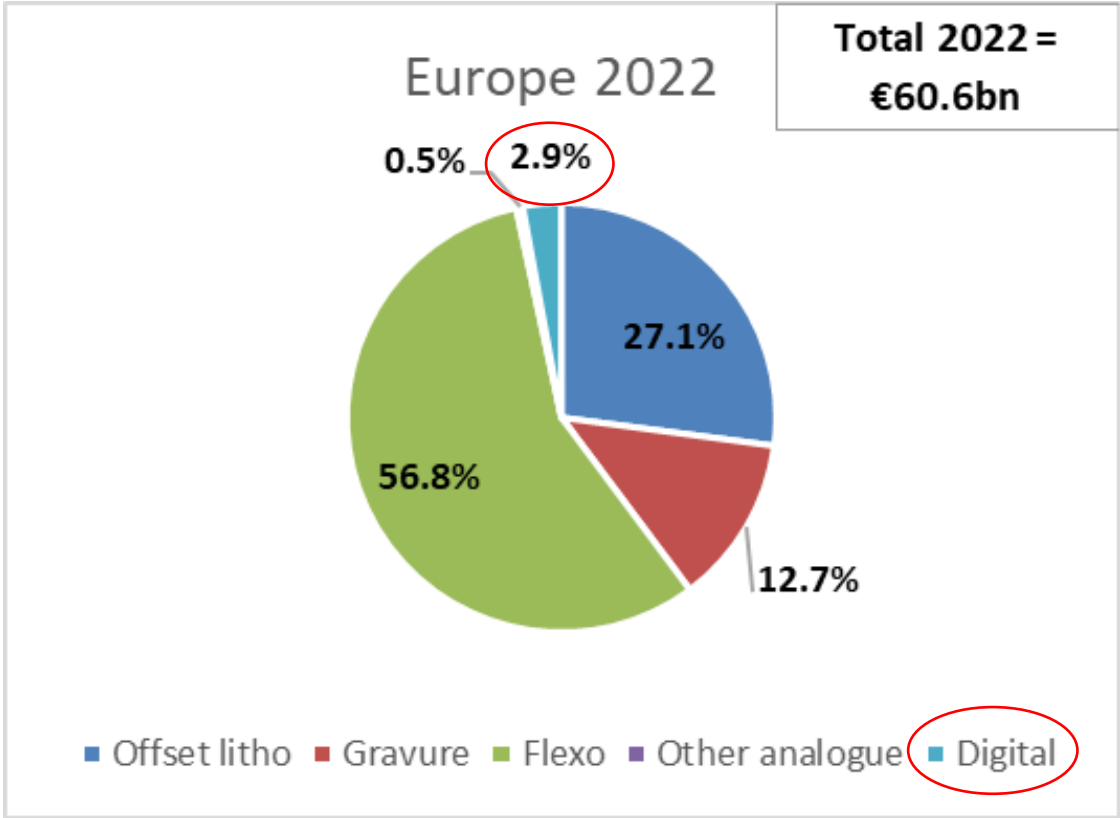


There is excitement around Digital Printing but it remains a relatively small % of the overall market

- The early adopters of digital are getting to grips with the **workflow and logistics** implications of handling many more short runs
- **Packaging converters** are working to implement major improvements in upstream order processing, design and prepress; and downstream finishing and logistics
- **Digital is taking share** from the analogue print methods of lithographic, flexographic, gravure and relief printing, as well as allowing new opportunities – importantly for the emerging craft and artisan sector

European printed packaging output by process across key pack types¹, 2022e and 2027f

(% share by value, constant 2021 price & € exchange rate basis)



¹ Data represents Corrugated & Solid Fibre Packaging, Carton & Flexibles. Countries include the EU27 + UK, Norway, and Switzerland.



Personalised Packaging has been made possible by developments in digital printing

This technology has provided small & medium sized online businesses with a unique opportunity to connect with their customers via unique, customised packaging. The big brands are playing too...

The gifting market has been the main beneficiary of this trend



5. Packaging Innovation

Dry Molded Pulp using Pulpac Technology



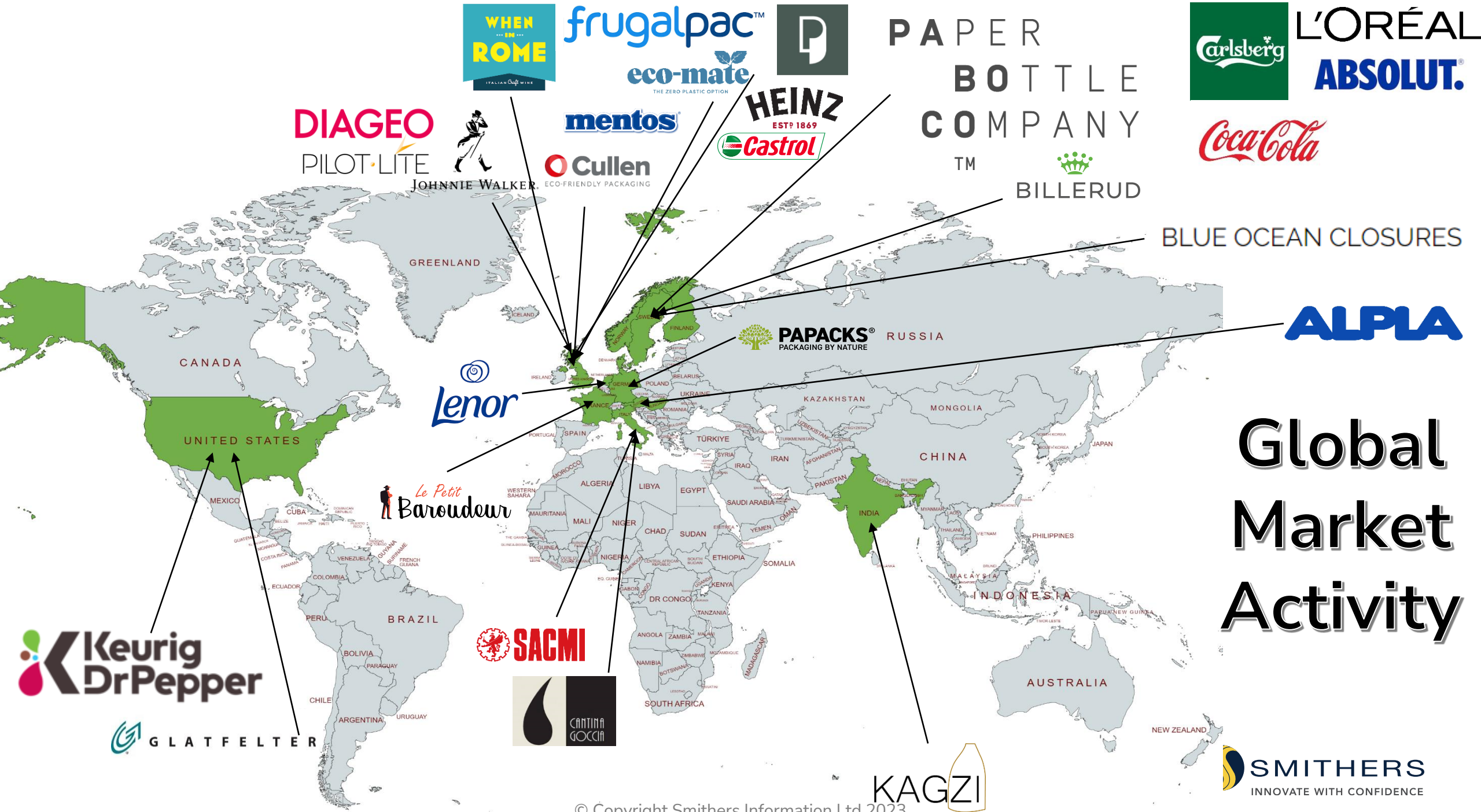
PULPEX



Paper Bottles

Pulp Fiction
or a liquid
packaging
revolution?





Monomaterials will be prioritised in flexible packaging to improve recyclability – but recycling infrastructure will need to keep pace

Mars Wrigley France team launched a recyclable M&M® Choco 300g pouch. By 2025 Mars wants to reduce virgin plastic use by 25% and 100% of plastic packaging to be reusable, recyclable or compostable



Amcor partnered with Nestlé to launch a recyclable flexible retort pouch



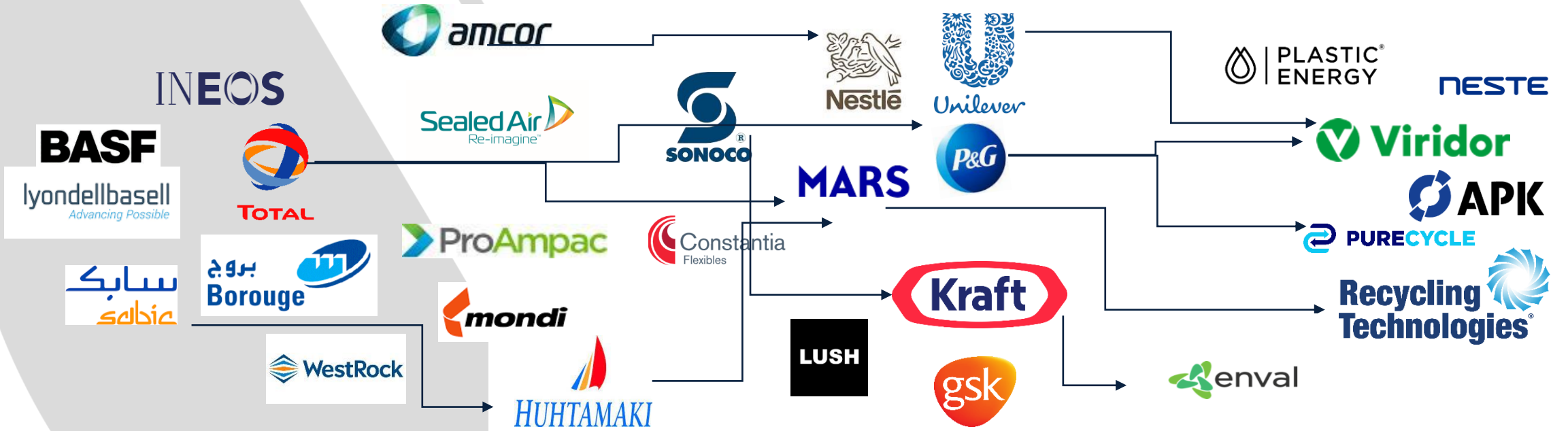
ProAmpac launched a recyclable retort pouch (Jan 2021)

Gualapack launched Pouch5, a range of 100% mono-material standup pouches, recyclable as polypropylene (PP), within existing PP streams



Development of packaging using
alternative materials will be
accelerated

Supply chain collaboration has started - but is it happening quickly enough?





The Future of E-Commerce Packaging to 2027

This new Smithers report focuses on the B2C element of the e-commerce market, which has by far the greatest market share and typically drives the most packaging development.

Our exclusive content includes:

- The four main packaging type categories used within the e-commerce market: flexible mailers, corrugated boxes, protective mailers and protective packaging
- Since the beginning of the pandemic this market has seen unprecedented growth which has resulted in demand for transit packaging growing exponentially
- Discussion of the major global e-commerce packaging trends, with data and commentary from all of the world's regions.



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