

FOOD PACKAGING

The Diversity & Future

JIKUL PUROHIT



Unil

REDUCTION of FOOD PACKAGING
over the years.

OVER SUSTAINABILITY
STRATEGY

Better & No Plastics.



FOOD PACKAGING – THE EVOLUTION

The history of food packaging

Packaging was invented to make food and drink last longer, but it's become a BIG cause of waste. Could new packaging innovations and a clampdown on waste herald a brighter future?

43 AD

...ution to the
...em was the
...shell was a
...ntainer and
...ed into one.
... eaten, and
... afterwards'.



...was
...ad
...about
...nd food
...r) and

1879
The foldable cardboard box was invented – by accident – and began to be used for food items towards the end of the century¹.

1914
Kellogg's pioneered the use of wax paper for holding the contents of its cereal boxes².



1948
The flexible and heat-resistant foil container was launched – and is still popular to this date³.



1951
Tetra Pak, established in Sweden by Dr Ruben Rausing (right), launched its famous tetrahedron-shaped carton to package milk and cream⁴.



1970s
The ready meal took off in UK homes – driven by trends including more working women (with less time to prepare a meal) and a rising divorce rate⁵. This drove demand for single-use packaging. At the same time, the rise of the takeaway on the high street led to more disposable packaging.



The development of different types of plastic packaging led to a 'plastic fantastic' revolution. Single-use packaging was developed for convenience, but caused litter and waste. At the same time, packaging stopped being just a container for food, but also became a way to improve its quality.

2005

WRAP (the government-funded Waste and Resources Action Programme) – which launched in 2000 – announced the Courtauld Commitment, a voluntary agreement signed by food sellers to reduce food packaging waste. Northern Foods, for example, changed the design of its Goodfella's pizza box, and reduced the total weight of packaging by 4,000 tonnes a year⁶.



2016

Edible coatings for fruit and veg were developed in the US. Made of leftover plant skins and stems, it's claimed they extend produce's shelf life by as much as five times⁷.

2015

Oxford became the first city in the UK to ban food sellers from using non-recyclable food containers⁸.

An unexpected benefit of the Industrial Revolution was the emergence of new food packaging from metal and cardboard.

1619

King James I built the first 'modern' ice house to keep food and drink cool during the year. Until refrigeration was invented, it was one of the only ways to keep food fresh⁹.



1809

The famous General Napoleon Bonaparte offered a reward to anyone who could invent a method to preserve food for his army. The result was the metal can. Food was sealed in airtight tin cans, and the cans then boiled to sterilise the contents¹⁰.



1927

Packaging gets technical, as Modified Atmosphere Packaging (MAP) – a technique to make food and drink last longer – was invented to protect apples. The process reduces the amount of oxygen and increases the amount of carbon dioxide around the product to stop bacteria developing – and is still in use today¹¹.



1954

The first 'TV dinner' – made out of aluminium and with separate compartments, like airline trays – launched in the US. It fed a growing appetite for ready meals and single-use packaging¹².



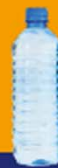
1966

Over a quarter of bread was now sold in plastic packaging (instead of paper bags), following the development of 'polyethylene', a new type of plastic¹³.



1977

The first plastic soft drinks bottles went on sale, made from 'polyethylene terephthalate' (PET)¹⁴. Nowadays, an astonishing 1 million bottles are sold worldwide every MINUTE¹⁵.



1980

Marks and Spencer sold the first pre-packaged sandwiches and the 'food to go' market was born. All those sandwiches meant a lot of throwaway boxes though...¹⁶



Packaging overload and an increased focus on the environment led to government intervention and the development of new biodegradable, recyclable – and even edible – packaging.

2012

Food wrappers and containers were found to be the second biggest polluter of the world's oceans, after cigarettes¹⁷.



2014

The 'Bump Mark' was developed – a food label which uses gelatine to track the decay process of the package contents. A smooth surface indicates the food is still fresh, but a bumpy texture warns that it's not safe to eat¹⁸.



2017

The 'edible water bottle' was invented. Created from seaweed extract, it can even be eaten after use¹⁹.

...RIES AGO...

THE INDUSTRIAL ERA

20th CENTURY

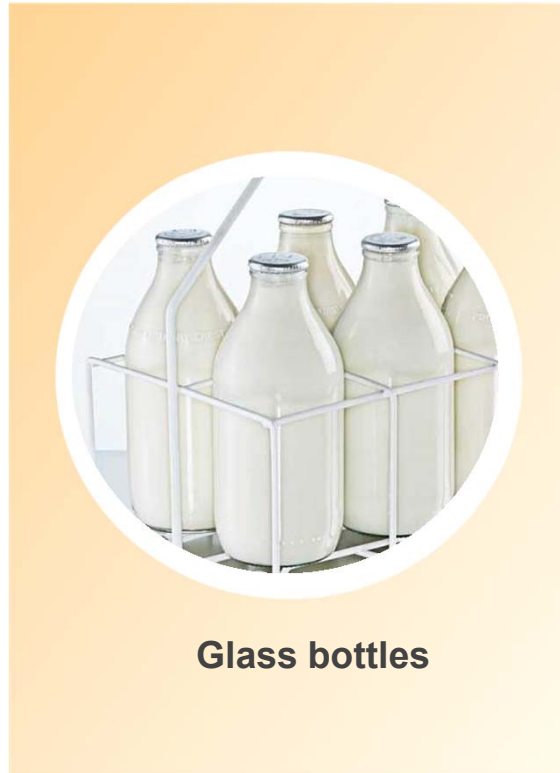
21st CENTURY

D PACKAGING – THE EVOLUTION

MILK Packaging ...



Milk cans



Glass bottles



Pouches / Tetra Pak



Recyclable / Reformat

1960's – 70 's

1980's – 90's

2000 - 2020

THE FUTU

???



D PACKAGING – THE EVOLUTION

OIL Packaging ...



Loose / Tin cans

1960's – 70 's



Plastic bottles / can

1980's – 90's



Pouches / Tetra Pak

2000 - 2020



Vending:
Bring Your Own B

THE FUTU

???

FOOD PACKAGING – THE EVOLUTION

FOOD Packaging ...



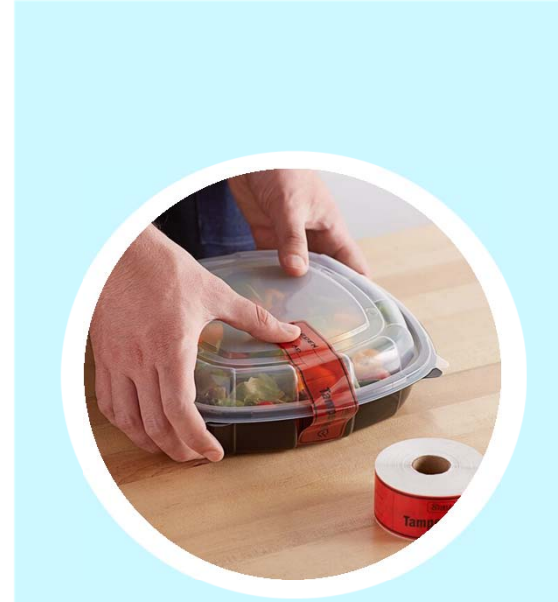
Loose / Eat out
Steel plates

1960's – 90 's



Restaurants / Parcel / takeaway
Plastic / paper containers

1990's – 2010



Online E-com
Plastic containers

2010 - 2020



Returnable Pack
Natural material

THE FUTU

???

PACKAGING – THE LANDSCAPE



ainers,
ss etc.



Rigid Plastics

Bottles, Caps, Cups etc.



Paper & Paper based

Cups, Wraps, tetra Pak



Flexible & multi-layer plastics

Multi-layer, foil, metallized, BON, PET, PE based laminates



SUSTAINABILITY IS THE NEXT DIGITAL

Sustainability is the new digital



environmental concerns of their investors and consumers will get left behind. Image: Jcomp, Freepik

This article is part of the [The Davos Agenda](#)

- COVID-19 has created a sense of urgency for businesses to improve their sustainability credentials.
- Some companies aren't adapting quickly enough to this "disrupt or be disrupted" mindset.
- Lessons must be learned from the digital revolution to enable businesses to adapt, innovate and ultimately prosper in the future.

Even in a year dominated by a global pandemic, the sustainability revolution has accelerated faster than expected, while also expanding to include a wider range of environmental and social issues.



EVER – PLASTICS AMBITION

Keep Plastic in the Loop. By 2025 we will:

CUT OUR USE OF VIRGIN PLASTIC IN HALF

More than 100,000 tonnes from absolute reduction, the rest from using more recycled plastic

USE 100% REUSABLE, RECYCLABLE OR COMPOSTABLE PLASTIC PACKAGING

Using 'no, less or better plastic'



COLLECT & PROCESS MORE THAN WE SELL

- ✓ Investment and partnerships in waste collection and processing
- ✓ Purchasing and using recycled plastic
- ✓ Paying directly for collection of packaging through EPR

We need our consumers, suppliers, retailers, employees and many others, to join us on this journey. Please help us close the loop on plastic.



EVER – PLASTICS AGENDA

LESS Plastics



Light weighting – Alternate materials - Refills

BETTER Plastics



Make plastics recyclable / Use recycled plastics

NO Plastics



Vending / Bring your own container



PLASTICS

REFILL Models



Pouch format as refill for bottle

PAPER based



100 % Compostable – paper based

LIGHT WEIGHT



Emulsion Coatings vs PE coating

OTHER PLASTICS

RECYCLE Ready



Mono material structures

MECH./HYBRID RECYCLING



PET bottle



RPP Tub

CHEMICAL RECYC



RPET bottle



PLASTICS

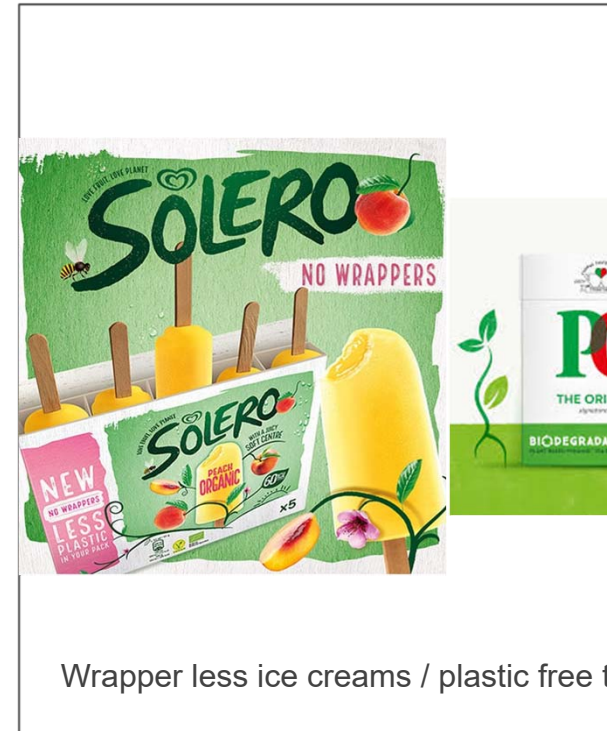
REFILL SYSTEM



REUSABLE MODEL



PLASTIC FREE



**DO NOT INHERIT THE EARTH
FROM OUR ANCESTORS,**

**BORROW IT FROM OUR
CHILDRENS!**

**HELP US TO CLOSE LOOP ON
PLASTICS,**

**LET'S MAKE OUR BLUE PLANET
GREEN AGAIN!**



THANK YOU



Unil