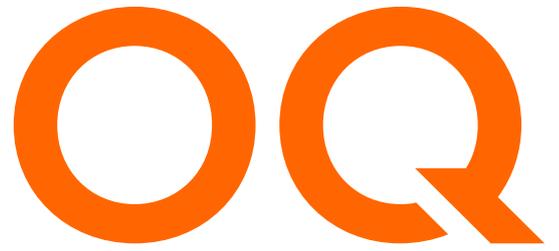


Packaging Flexibility For The Future



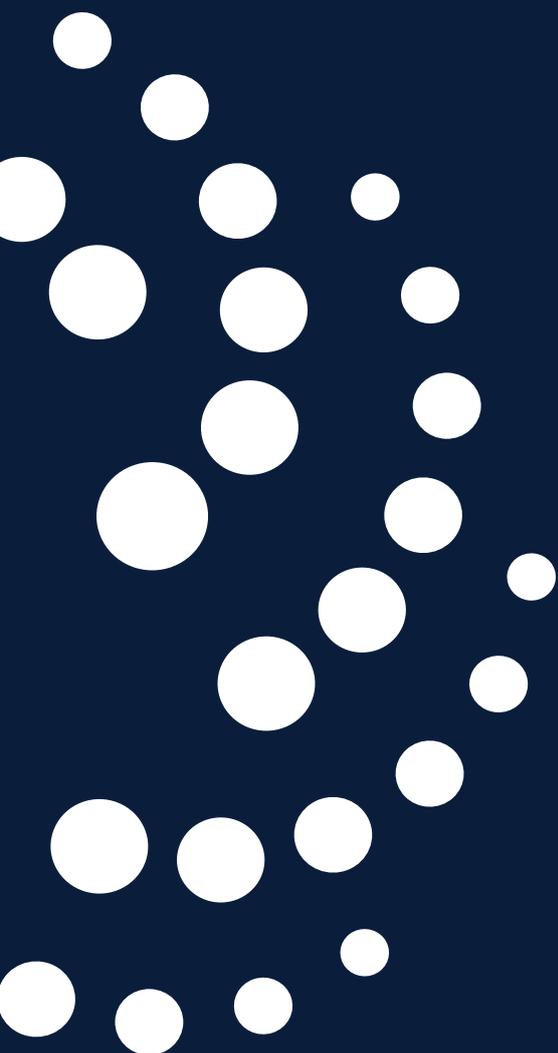
A major shift towards flexible packaging is gaining momentum, as it is more convenient, customisable and cost-effective.



**Energy
Beyond
Limits**

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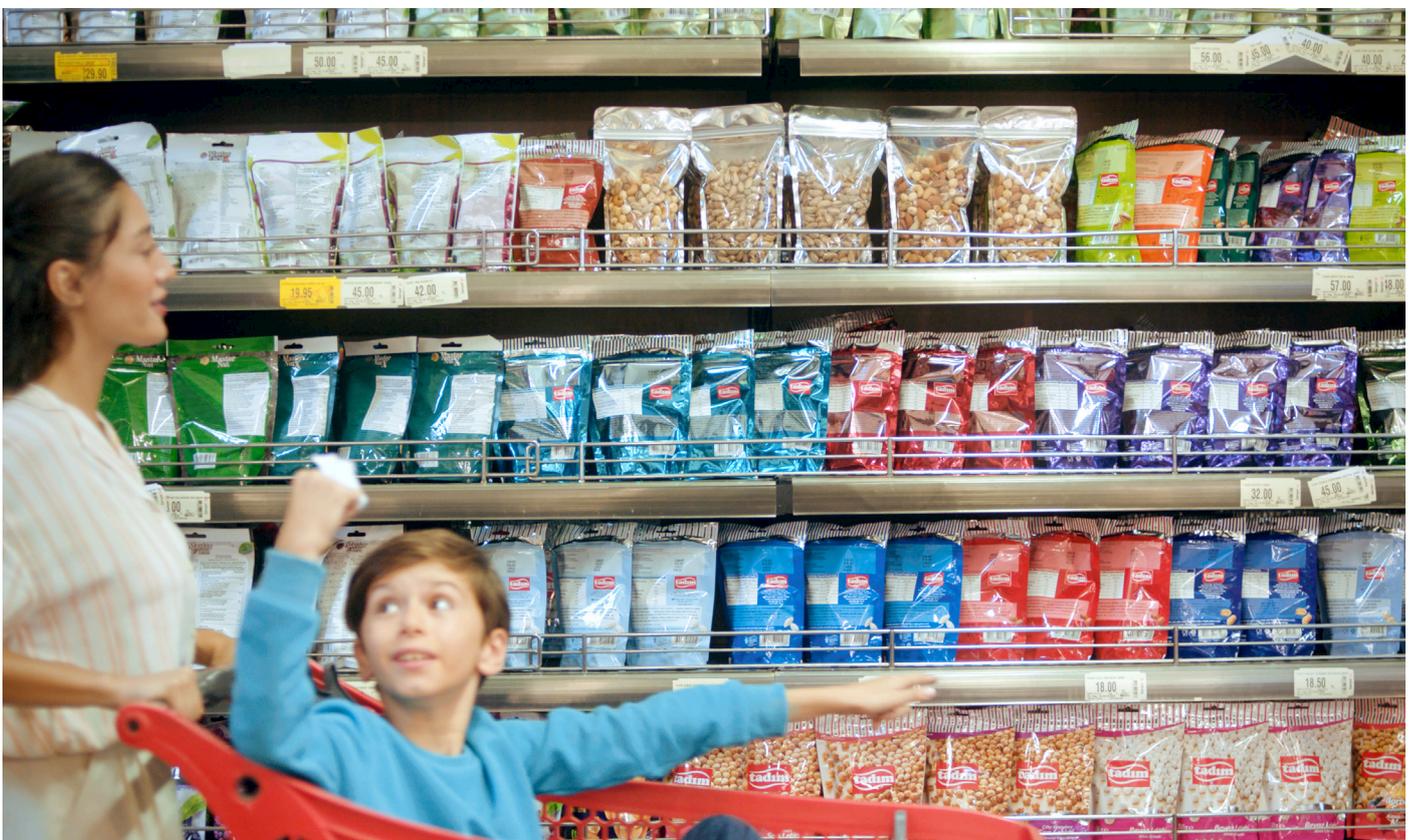


01

Flexibility is the new norm

The rise of flexible formats is one of the big trends driving the future of the plastic packaging industry.

Supermarket shelves are increasingly populated with an ever-growing variety of food, beverages and household items contained in flexible packaging. From baby food standing pouches to resealable bags for hand soap, such formats are not only more eye-catching in their designs and colour schemes but are also more sustainable and informative than alternative packaging forms.



The rise of flexible packaging reflects the broader push by brand owners to stay agile and future-ready, be it through adapting products swiftly to consumers' changing tastes or becoming more agile in supply chain management. In today's increasingly complex business environment, companies that harness greater flexibility with more sustainable options will continue to thrive. In fact, the most resilient organisations were 11 percent more profitable in 2020 than in 2019, according to a McKinsey study, which expects flexibility to

remain a major driver of growth in coming years.

This is also true for the packaging industry, which is accelerating its shift towards flexible packaging products and resilient value chains. The benefits are clear: Flexible packaging have shapes that can be readily changed when filled or used, thus allowing for more economical and customisable formats. They are particularly useful in industries that require versatile packaging, such as food and beverage, personal care, and pharmaceutical.

In line with this trend, global energy company OQ is expanding its range of quality polymer solutions to meet industry needs. OQ's strong global presence across over 100 countries also supports packaging players in building more diversified, flexible supply chains.

This white paper analyses why packaging customers should transition to flexibility, and how OQ can help position them for business success.

02

Key attributes of future packaging

As the world moves on from the pandemic, consumers' demands are increasingly multi-faceted. They are shifting from a predominant focus on health to a broader range of attributes that fits their safety, lifestyle, environmental consciousness and personal preferences. As a result, they are opting for packaging materials that are:

Safe

Consumers continue to be vigilant about issues of safety and protection. They know how important plastic packaging is in

keeping contents sanitary and fresh. Hence, many consumers continue to buy products wrapped in food packaging films and opt for individually-wrapped portions to reduce contact with germs.

Consumers also continue to see value in contactless packaging and delivery of food and beverage products, so that the contents are kept safe from exposure to any germs or dirt.

All this in turn led to a spike in demand for smaller-sized flexible containers; food packaging films for individually-wrapped portions to reduce sharing and contact; as well

as multi-layer wrapping for further protection.

For instance, films used for food packaging, agriculture and multi-layer wrapping can be made from Luban DFDC-7050, a butene LLDPE grade designed for the blown film process that has very good tensile and toughness properties.

Such qualities are also characteristic of homopolymer polypropylene materials such as Luban HP4102M. The product is suitable for metallisable film that can be used as a core layer in CPP film helping to keep products fresh and tasty.

Convenient

Consumers are looking for products that provide value to their increasingly busy lifestyles, which are increasingly shaped by broader demographic changes. This includes rapid urbanisation as well as a surge in the number of smaller, middle-class families and single-person households. In response, more brand owners to accelerate their shift to more convenient packaging options.

The burgeoning population of wealthier city dwellers – especially in emerging economies – is driving demand for food, household products and other items that are packed in smaller portions. Consumers also prefer products stored in more convenient formats such as microwavable fast-food meals, food pouches or resealable snack packs.



Luban HP4102M

All these attributes – convenience, “on-the-go”, individualised portions – fit consumers’ perception of “value-for-money” products. OQ’s solutions support diverse formats, enabling the packaging industry to provide greater value to consumers. For instance, OQ’s Luban HP5101SC, a homopolymer polypropylene which can be used in fabrics such as diaper stock, disposable napkins and face masks, support consumers’ busy lifestyles and need for convenience.

Besides food packaging, OQ also offers solution supporting consumers’ busy lifestyles and need for personal and home care convenience.

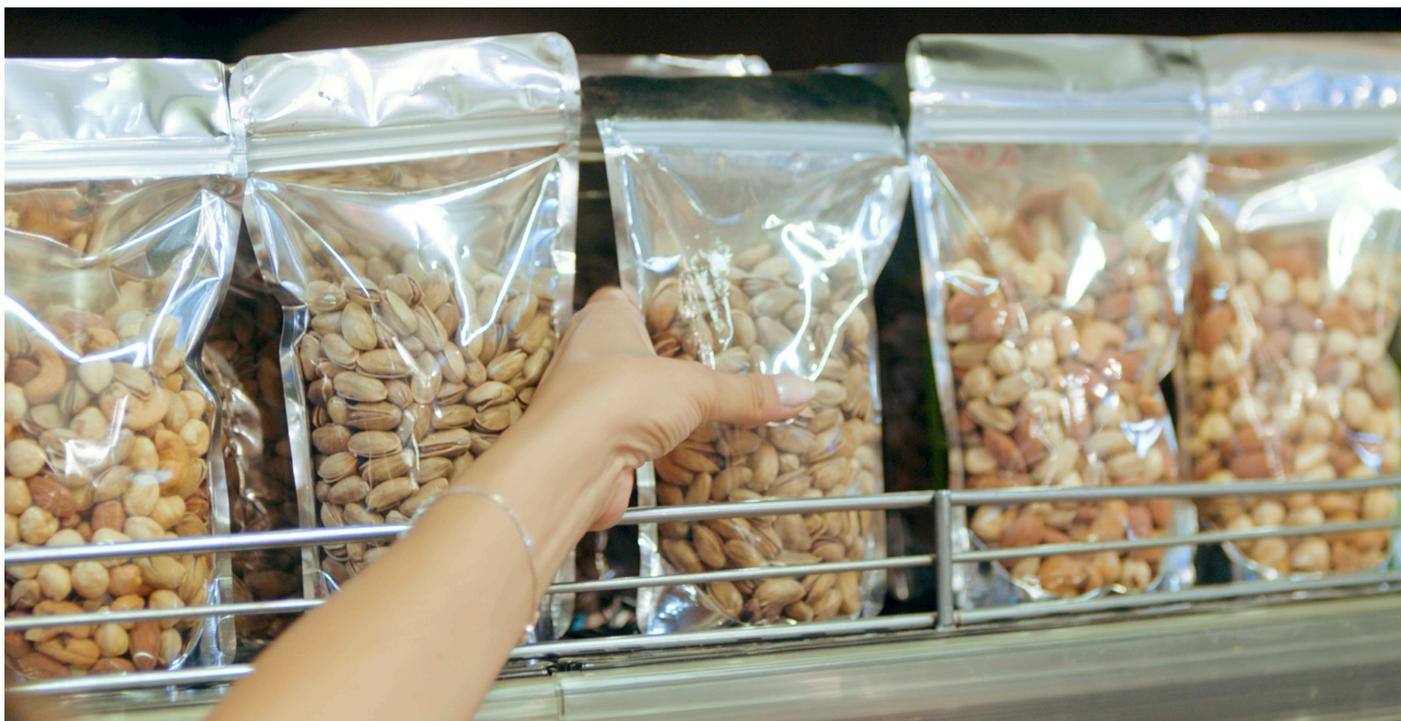
Sustainable

At the same time, consumers want all these convenient packaging to be as sustainable as possible. With growing awareness of the impact that their purchasing decisions and behaviour have on the environment, they are now voting with their wallets: 83 percent of consumers say they are willing to pay for more sustainable packaging, according to a 2021 survey by global trade association NACS.

In response, brand owners are turning to recyclable flexible packaging, which tends to have a lower carbon footprint than rigid formats as it is more lightweight. For instance, films used for food packaging, agriculture and multi-layer wrapping can be made from Luban grades designed for

the blown film process that has very good tensile and toughness properties. This grade not only meets the requirements of the US Food and Drug Administration (FDA) packaging.

Many of OQ’s solutions for flexible packaging not only help to reduce the amount of plastic used but are also recyclable. For instance, recyclable PE/PE laminates can use combination of Luban LLDPE and HDPE portfolio. Our Luban DFDA 7042 and Luban HPR1018HA grades deliver toughness and sealing, while Luban DGDZ 6095 delivers stiffness needed to replace multi-material non-recyclable alternatives.



Luban HPR1018HA, Luban DFDA 7042 and DGDZ 6095 are used to make this stand-up pouch.

Personalised and informative

Consumers also find value increasingly in the exterior features of packaging. They are looking for packaging that are aesthetically pleasing and labelled with more

information to help them make individualised decisions. All this will drive sustained demand for differentiated packaging designs that are visually appealing to each consumer’s personal background and values, while still providing detailed and targeted information on the product.

Flexible packaging can be more easily designed and modified to improve product design and enhance brand image. Innovations such as flexographic printing abilities are also enabling brand owners to design more eye-catching, colourful flexible packaging.

03

New challenges in supply chains

Global e-commerce will continue to surge, as reflected in the growing momentum in online retail sales. It makes up about 22 percent of total sales today, up from 15 percent in 2019, and is expected to keep rising in the coming years as digitalisation accelerates across all sectors and countries worldwide.

This dramatic expansion in the US\$3.3 trillion e-commerce industry will continue to drive demand for flexible packaging formats. Their lightweight yet durable properties help lower shipping for final products and reduce storage space, offsetting some of the growing pressures on delivery and logistics systems.

Still, unprecedented bottlenecks have built up in global production, logistics and supply networks amid

geopolitical tensions that have driven up energy prices and caused shipping disruptions. The supply chain crisis continues to fester today and may see some relief only in 2023 or 2024 when a recovery in global shipping capacity and inventories picks up, according to forecasts by JP Morgan analysts.

Packaging industry transformation

Like every other industry, the packaging sector has responded to the "demand pull" for flexible packaging and the supply chain crisis by becoming more versatile in the way they source materials, produce goods and deliver them.



To make transportation and logistics more reliable and cost-effective, some players are leveraging the expansive networks of global suppliers like OQ to diversify their sources of polyethylenes and polypropylenes.

In this way, brand owners and converters would be less exposed to the risks of shortages in a single supplier, or delays in transportation from one location.

At the same time, more businesses

are recognising the need to "go local" in their production. They can do so by building more production sites or sourcing from local suppliers to reduce transportation times and delays, while getting closer to end consumers. OQ's wide network of local offices provides the on-the-ground support and resources that its customers need to optimise their production lines.

1 Is packaging changing its rigid ways?
| Packaging World (packworld.com)

2 Can the packaging industry cope with a supply chain in crisis? | Article | Packaging Europe

A supportive partner

OQ is an attractive and viable addition to packaging players' network of suppliers. With a growing global footprint and headquartered in Oman, we have regional sales offices and technical service teams located in all key markets across the globe.

We also have a Shanghai office to cover Northeast Asia, a Singapore

office for Southeast Asia, a Türkiye office for Southeastern Europe and an India office for Indian sub-continent. OQ is looking at establishing regional hubs to ensure a shorter lead time for cargo delivery as well as provide support in various time zones.

OQ is able to support customers through our dedicated product development team and lab analysis. Our services include timely technical advice, troubleshooting

and enquiries support, which are critical to helping companies build more flexible production and supply systems.

All these services enable packaging industry players to enhance their value chains and become more agile.

04

Positioning for the future



Make strategic plans to increase or optimise your flexible packaging mix:

Industry statistics show that 83 percent of brand owners are already using flexible packaging. Another 58 percent plan to increase their mix over time. While every company has different needs, it is useful to conduct an analysis of how using more flexible plastic packaging materials could add value to your business or reduce costs – or both.

OQ's wide range of PP and PE grades can cater to customers' needs in different segments, such as food, non-food, household, industrial and more. Our team of professional consultants can help film manufacturers and converters assess whether our solutions

enhance your product mix or improve existing flexible packaging products.

Look at ways to buffer against supply chain disruptions

Sourcing for raw materials from more locations regionally or locally can hedge against the risks of a breakdown in one part of your supply chain. Forming partnerships with truly international players like OQ also helps you keep up with changing market conditions and customers' needs.

Maintaining constant dialogue and collaboration with all the players in your ecosystem – from suppliers to end users – will be critical to staying flexible and adaptable for greater business success.

**Stay ahead of the curve
by shifting to more
flexible packaging and
flexible supply chains.**



For commercial enquiries,
contact us at [https://connect.
oq.com/polymers-inquiry](https://connect.oq.com/polymers-inquiry)
or scan the QR code

