SPOKESPERSON AND GATEWAY TO PAKISTAN'S PACKAGING INDUSTRY

# PACKAGING PAKISTAN

Volume 4, Issue 1, January - June 2019

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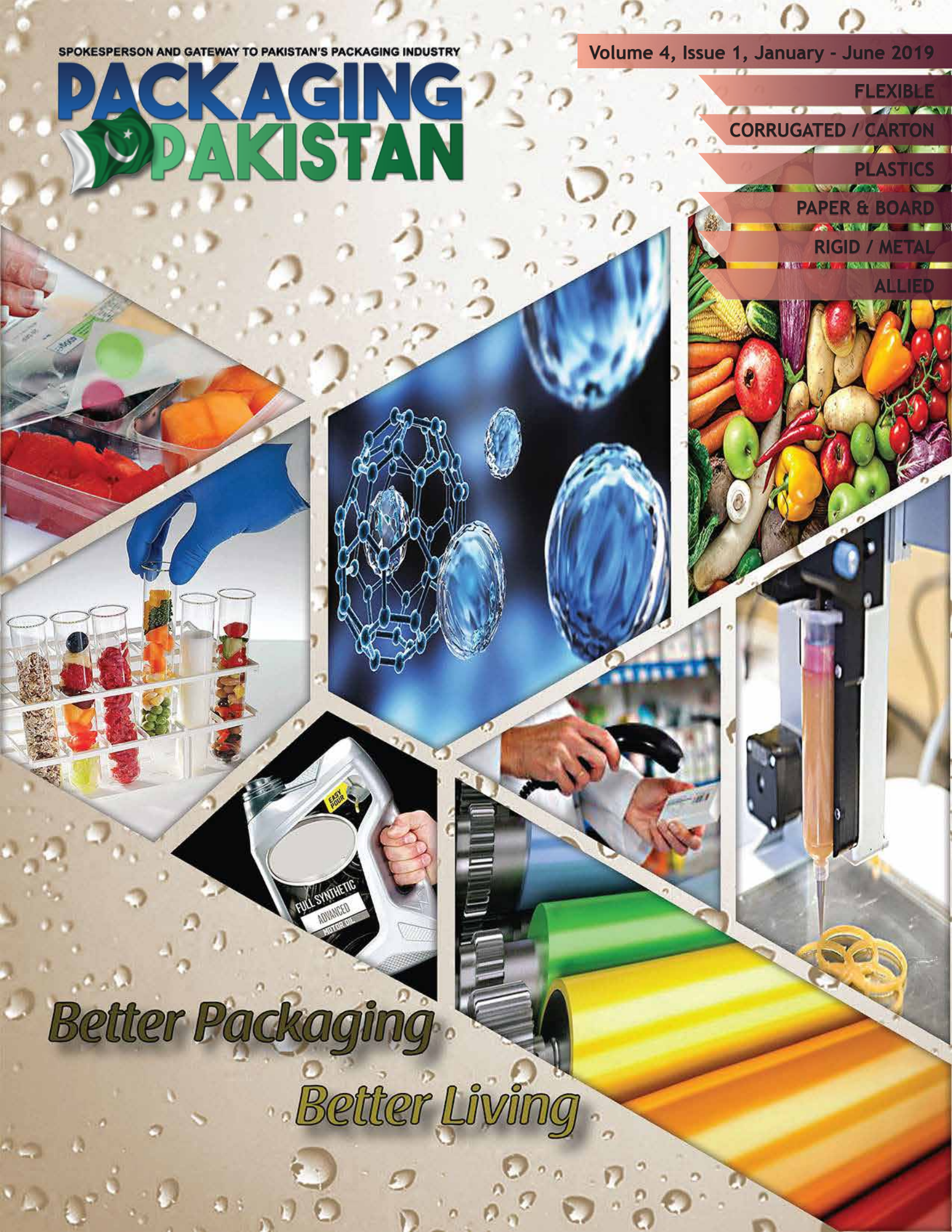


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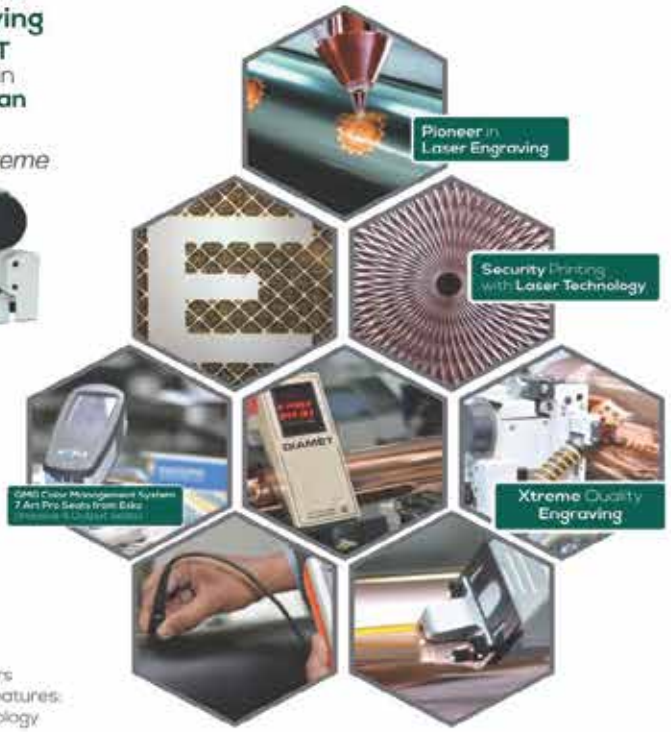



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# Editorial Note

*Welcome to another interesting edition of Packaging Pakistan leading publication on the fast-growing packaging industry.*

According to experts, Packaging is constantly changing, and to keep up with consumer and retail/CPG demand, we have to look at the future as "now." Thinking ahead in order to forecast and make predictions on what will trend and how machines and materials can be used in the foreseeable future is one way to help stay ahead in the ever-changing market. It is obvious that the packaging world is taking sustainability in packaging as well as operations seriously. The numerous brands, retailers, suppliers and packaging companies that continue to change practices as well as offer lighter, recycled or reusable materials attest to it.

When we look at the packaging market by region, we don't see our typical split of approximately one-third Americas, one-third Asia and Africa, one-third Europe. In this case, Asia is bigger, and that is purely linked to the bigger population in Asia and packaging being used on a more personal level/final customer level. Which of these sectors are growing? Is paper packaging growing? Is plastics? And the short answer is we believe that they are both growing. Paperboard growth is slightly less than that of plastics, and as such it is losing market share to plastics. But the key point is that this is a growth sector, with all elements of the global packaging sector growing. If we take that on a regional basis, we see a similar story. We see packaging growing in every region of the world. Admittedly, Western Europe is growing at the lowest rate of around 1 percent compared with very high rates in Asia Pacific. Packaging is a growth area, regardless of how we segment it in terms of geography and in terms of material. Flexible Packaging (Converters) industry of Pakistan is the second largest packaging industry in the South Asia after India Pakistan growing in Packaging sectors and last couple the situation of Packaging industry has improved as recently many new companies have invested and started working alongside. Pakistan itself holds the world's 7th largest consumer market, by quality of its more than 200Mn population, this sector fastest growing industry in Pakistan instead of different other packaging sectors, now a day's flexible packaging industry backbone of different fast growing sectors direct and indirect manners. Despite economic difficulties through combined efforts put towards developing the flexible packaging industry, Pakistan is manufacturing top quality packaging material.

Our present publication, you will find different packaging segments information, interview of Managing Director Plastics Recyclers Europe, different educational articles, advanced combination of technology news and so on. We always like to thanks our advertiser for selecting us to encourage their products in PAKISTAN. We also like to express our apprehensiveness to all our readers continuously support us. We would like to finish with this remarkable though by Steve Job (the late CEO Apple) "A hen's egg is, quite simply, a work of art, a masterpiece of design and construction with, it has to be said, brilliant packaging".

Happy Reading..!

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# Natural and Synthetic Packaging

*Author: M. Khawar Zeeshan*

Packaging is a process which produce the Stuff Presentable on Display, Preserve it for a certain time period, Protected from Contamination.

## *Types of Packaging*

Normally Packaging has been divided into two Parts:

1) Natural Packaging
2) Synthetic Packaging

## Natural Packaging

The packaging material created by Nature is called Natural packaging. As it is grown up or down to the ground of earth. Like Root Vegetables has been grown down to the Ground of Earth

### *(a) Onion Shallot*

In Onion Shallot you can easily find that the stalk is protect it from dust and keep the moisture of the Onion Shallot in side it and keep it fresh.

### *(b) Potato*

In Potato you can easily find that its peel has a water holding property so the water inside the peel remains preserved. Also it helps the potato keep away from dust.

## *Fruit Grown Up the Ground of Earth*

Following are the fruit grown up the ground of earth having fiber

### *(a) Banana*

The banana Peel is a very good example of Fiber. It contain Nylon with keep banana fresh for a certain time period.

### *(b) Orange*

The Orange Peel is a very good container made by Nature. As Orange has juice of acidic nature it peel keep it preserved. It has fiber inside which keep the Orange protected from the contamination.

### *(c) Lemon*

Lemon Peel is also has Nylon in it. It's fiber keep the lemon fresh.

Best example of hard shell is Coconut. It is a very good container which has water in side.

## Synthetic Packaging

The packaging material produced by the manufacture by Human being is called Synthetic Packaging. Like Paper, Plastic etc.

The packaging industry has been grown day by day due to the Research and Development in the field of flexible Packaging.

In this type of packaging material has been packed and stored in the define conditions which is called CA (Control Atmosphere) and MA (Modified Atmosphere).

The terms controlled atmosphere (CA) and modified atmosphere (MA) imply using an atmospheric compositions that is different from air, but they differ in the degree of their control of the gases concentrations.

*Control atmosphere (CA)* - generally refers to decreased $O_2$ and increased $CO_2$ concentrations, by a precise control of the gas composition.

*Modified atmosphere (MA)* - is used when the control of the storage atmosphere is not closely controlled, such as in plastic film packaging.

The Plastic Film use for these types is commonly in combinations like:

1) Polyester + Metallize CPP
2) Polyester + Metallize BOPP
3) BOPP + Metallize BOPP
4) BOPP + Pearl BOPP

5) Polyester + Metallize Polyester + P.E
6) Polyester + Al-foil + P.E

There are three types of barriers:

a) Gas Barrier
b) Water Barrier
c) Sunlight Barrier

Following chart contain the Oxygen Transfer Rate (OTR) (Gas Barrier) values of different flexible films.

**OTR @ 73 °F(23 °C), 0% RH**

| Film Type | (cc/100 in2/24hr) | (cc/m2/24hr) |
|---|---|---|
| **The following OTRs are bulk material properties displayed at 1mil. You may divide by the gauge (in mil) in order to approximate OTR at different thickness.** | | |
| EVOH* (ethylene vinyl alcohol) | .005-.12 | .08-.19 |
| Biax Nylon-6 | 1.2- 2.5 | 18.6-39 |
| OPET (oriented polyester) | 2-6 | 31-93 |
| OPP | 100-160 | 1550-2500 |
| Cast PP | 150-200 | 2300-3100 |
| HDPE (high density polyethylene) | 150-200 | 2300-3100 |
| OPS (oriented polystyrene) | 280-400 | 4350-6200 |
| LDPE (low density polyethylene) | 450-500 | 7000-8500 |
| **The following OTRs are enhanced by coating or metallizing. Therefore, these are not bulk film properties, and total film thickness has little impact on the OTR value.** | | |
| Metallized OPET | .01-.11 | .16-1.7 |
| PVOH-coated OPP (AOH) | .02 | .31 |
| Metallized biax Nylon-6 | .05 | .78 |
| PVdC-coated OPET | .30-.50 | 4.7-7.8 |
| High Barrier PVdC | .30-.60 | 4.7-9.3 |
| PVdC-coated biax Nylon-6 | .35-.50 | 4.7-7.8 |
| Metallized OPP | 1.2-10 | 19-160 |
| Sealable PVdC-coated OPP | 1.5-3.5 | 23-54 |

**Table 1: OTR values for common films**
*The range of possible values is especially wide for EVOH because the value is dependent on the ethylene content of the particular grade. EVOH is typically a buried layer, either via coextrusion or lamination.

Following chart contain Water VaporsTransfer Rate (WVTR) (Water Barrier) values of different Flexible films.

**WVTR @ 100°F (38°C), 90% RH for 1mil film**

| Film Type | (g/100 in 2/24hr) | (g/m2/24hr) |
|---|---|---|
| Biax OPP | 0.25-0.40 | 3.9-6.2 |
| HDPE (high density polyethylene) | 0.3-0.5 | 4.7-7.8 |
| Cast PP | 0.6-0.7 | 9.3-11 |
| Biax PET (oriented polyester) | 1.0-1.3 | 16-20 |
| LDPE (low density polyethylene) | 1.0-1.5 | 16-23 |
| EVOH* (ethylene vinyl alcohol) | 1.4-8.0 | 22-124 |
| Biax Nylon (BON) | 10-13 | 155-202 |

**Table 2: Normalized WVTR values for common films**
*Dependent on ethylene content of the particular grade.

Following chart contains Water Vapors Transfer Rate (WVTR) (Water Barrier) and Oxygen Transfer Rate (OTR) Gas Barrier values of different Flexible films.

| Film Type | (g/100 in 2/24hr) | OTR(cc/100 in 2/24hr) |
|---|---|---|
| Polyester 48 Ga. | 2.8 | 2-6 |
| PVDC Coated Polyester | 0.4 | 0.30-050 |
| Metallized Polyester 48 Ga. | 0.05 | 0.01-0.11 |
| Biax Nylon 1 mil | 19-20 | 1.2-2.5 |
| Metallized Nylon 48 Ga. | 0.2 | 0.05 |
| PVDC-Nylon 1 mil | 0.2 | 0.35-0.50 |
| LDPE 2 mil | 0.6 | 225-275 |

**Table3: Quick reference sheet with OTR and WVTR**

Following Chart contain information about selection of Packaging Film structure for common Applications.

| *Material Structure and Application* | | |
|---|---|---|
| **Film Structure** | **Packaging Properties** | **Common Application** |
| **NY/PE** | • Excellence low temperature resistance<br>• Good moisture barrier<br>• Good high temperature applications<br>• Suitable for vacuum application | Frozen Foods<br>Meat products<br>Liquid products<br>Snacks |
| **PET/AL/NY/PE** | • Excellence moisture barrier<br>• Tough and high impact resistance<br>• Excellent light and aroma barrier | Liquid products<br>Pet Food<br>Curry & high acid products |
| **PET/NY/CPP** | • High temperature end-use<br>• High chemical and oil resistance | Prepared food<br>Precessed food<br>Soup<br>Instant foods |
| **Mopp/PE** | • Superior moisture barrier<br>• Excellent oxygen and light barrier | Versatile for different food products<br>Rice derived products, Snacks, Tea, Deep fired products |
| **PET/PE** | • Superior moisture barrier<br>• Good seal ability and good vacuum retention | Rice<br>Powder<br>Snacks |
| If any problems about the structure, please contact us for the details. | | |

The fruit and vegetable which grow under the ground has water barrier in their peels. To preserve these types of food we should use opaque film like Metallize packaging and the best packaging is Al-foil.

The fruit and vegetable which grow outside the ground has nylon and fiber in their peels like orange, banana etc. As orange has juice in it which is acidic in nature so we use Nylon or HDPE to preserve the food.

Sneezing is a natural phenomena in which something react inside the nose and as a result sneeze has occur. All those food stuff which can occur sneeze to human being like dry food, Chili, Turmeric etc High Barrier Packaging System is required.

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What do dairy products, chocolates, headache pills and salted peanuts have in common. Obviously, all of them come in packages. But there is something else: their packaging is flexible. More and more products are sold with flexible packaging instead of in glasses or tins – and the market continues to grow. The shrink sleeve segment in particular is expanding. This is a segment we know very well and for which we offer special coatings. Just as we do for flexible packaging made of paper, aluminium and plastic.

We also have a lot to offer in the areas of foil coating, roll goods, lids, tubes, labels and pouches. A product range that makes us unique in the market – and turns your products into real highlights. Whether it's soups and sauerkraut, cleaning supplies or prescription drugs.

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## Single-Use Plastics Banned By EU Parliament

According to the European Commission, more than 80% of marine litter is plastics. The products covered by this new law constitute 70% of all marine litter items. Due to its slow rate of decomposition, plastic accumulates in seas, oceans and on beaches in the EU and worldwide. Plastic residue is found in marine species – such as sea turtles, seals, whales and birds, but also in fish and shellfish, and therefore in the human food chain. European Parliament approved a new law banning single-use plastic items such as plates, cutlery, straws and cotton buds sticks. 560 MEPs voted in favor of the agreement with EU ministers, 35 against and 28 abstained. The following products will be banned in the EU by 2021:

- Single-use plastic cutlery (forks, knives, spoons and chopsticks)
- Single-use plastic plates
- Plastic straws
- Cotton bud sticks made of plastic
- Plastic balloon sticks
- Oxo-degradable plastics and food containers and expanded polystyrene cups

Member states will have to achieve a 90% collection target for plastic bottles by 2029, and plastic bottles will have to contain at least 25% of recycled content by 2025 and 30% by 2030. The agreement also strengthens the application of the polluter pays principle, in particular for tobacco, by introducing extended responsibility for producers. This new regime will also apply to fishing gear, to ensure that manufacturers, and not fishermen, bear the costs of collecting nets lost at sea. The legislation finally stipulates that labeling on the negative environmental impact of throwing cigarettes with plastic filters in the street should be mandatory, as well as for other products such as plastic cups, wet wipes and sanitary napkins. Lead MEP Frédérique Ries (ALDE, BE) said: "This legislation will reduce the environmental damage bill by €22 billion – the estimated cost of plastic pollution in Europe until 2030. Europe now has a legislative model to defend and promote at international level, given the global nature of the issue of marine pollution involving plastics. This is essential for the planet."

## EREMA Celebrates Most Successful Year

Austrian recycling machinery maker Erema Group has celebrated the most successful year in its history after recording turnover of more than €180 million ($202m), an increase of 16 per cent compared to last year.Half of this turnover volume was generated in Europe, as companies continue to invest in recycling technology as a result of China's block on plastics waste imports, along with political and voluntary initiatives. All three recycling markets – post-consumer, in-house and industrial, and bottle recycling showed solid growth. Bottle recycling was especially profitable, with orders almost tripling compared to previous years. The company witnessed growing interest in its Vacurema technology, along with processes based on it such as the flake-to-perform Xtreme Renew System developed with Sipa, and the recently launched bottle-to-bottle system Vacunite.

At the beginning of the 2019/20 financial year, Klaus

Feichtinger stepped down as chief executive, although he continues to contribute his know-how as a manager in the area of IP and new technologies. Together with chief executive Manfred Hackl, chief financial officer Horst Wolfsgruber is now responsible for strategic planning and development across the group. In order to be able to concentrate fully on this task, Manfred Hackl is handing over operational management of the subsidiary EREMA. Markus Huber-Lindinger takes over the areas of technology and production as managing director. The company has also broken ground on the construction of additional production and office space at its Ansfelden headquarters, with completion expected by spring 2020.

## Unilever Full Year Results Reveal Growth Amid Market Volatility


Unilever's 2018 full year results reveal modest underlying sales growth (excluding spreads) of 3.1 per cent with 2.1 per cent from volume. Meanwhile, the company reported turnover of €49.6 billion ($57.05bn) – down 5.1 per cent year-on-year due to an adverse currency impact of 6.7 per cent and the disposal of its spreads business to KKR in a deal completed in July last year. "2018 was a solid year for Unilever, with good volume growth and high-quality margin progression," said Unilever's chief executive officer, Alan Jope. "Looking forward, accelerating growth will be our number one priority."

We will capitalize on our strengthened organization and portfolio, and our digital transformation program, to bring higher levels of speed and agility," Jope added. "Strong delivery from our savings programmes will improve productivity and fund our growth ambitions." However, Jope admitted that market conditions will remain challenging in 2019. "We anticipate underlying sales growth will be in the lower half of our multi-year 3-5 per cent range, with continued improvement in underlying operating margin and another year of strong free cash flow," he explained. "We remain on track for our 2020 goals." Unilever's growth was impacted by challenges in Latin America. Price growth in Argentina was excluded from Unilever's underlying sales growth from 1 July 2018. According to the company, this would have contributed a further 50 basis points. "The deterioration in the conditions for consumers in Argentina resulted in a full year underlying volume decline of -10 per cent, which had a -30bps impact on Unilever volume growth," the company reported. Emerging markets grew by 4.6 per cent with 2.8 per cent from volume driven by another year of strong growth in Asia, Africa, Middle East, Turkey; Russia, Ukraine and Belarus. Meanwhile, sales in developed markets grew slightly helped by a good year for ice cream in Europe as well as the continued transformation of Unilever's portfolio towards faster growing segments.

Constant underlying earnings per share increased 13 per cent and underlying earnings per share increased 5.2 per cent after an adverse impact of 7.6 per cent from currencies. Over €10bn ($11.5bn) was returned to shareholders through share buy-backs and dividends.

## Coca-Cola Announces New Recycling Goal

Coca-Cola is to collect and recycle the equivalent of every bottle or can it sells globally by 2030. As part of its "World without Waste" plan, the company and its global bottling partners are refocusing on the entire packaging lifecycle - from how bottles and cans are designed and made, to how they are recycled and repurposed. "Consumers around the world care about our planet. They want and expect companies like ours to be leaders and help make a litter-free world possible," said James Quincey, the recently elected president and chief executive of The Coca-Cola

Company. “Through our World without Waste vision, we are investing in our planet and in our packaging to help make the world’s packaging problem a thing of the past. ”Meanwhile, Coca-Cola will continue to look at developing 100 per cent recyclable packaging and also focus on reducing the amount of plastics in its bottles. “We believe every package – regardless of where it comes from – has value and life beyond its initial use,” Quincey added. “If something can be recycled, it should be recycled. So we want to help people everywhere understand how to do their part.”

## KROENERT Introduces Training Sessions


KROENERT, a global leader in the manufacture of customized coating and laminating systems, has expanded its service portfolio and conducted its first open training session for customers. The training sessions, each of which focuses on a single topic, are held at the KROENERT premises. They are designed for all customers who use KROENERT systems and are interested in expanding their knowledge to increase productivity and the competitive advantage of their production plant. In the training sessions, KROENERT experts share their comprehensive knowledge and present state-of-the-art technology. Participants broaden their expertise and deepen their understanding of KROENERT systems, thus enabling them to fully utilize their system capacities. Staffs who have received the best possible training succeed in optimizing production processes and ensure more reliable operation with shorter downtimes, as fewer errors occur and problems can be solved more quickly.

The training modules are developed by KROENERT. Engineers and technicians from the company’s various departments put together subject-related material using their specialized and practical knowledge. “We offer participants an ideal combination of theoretical basics and practical applications at our KROENERT Technology Center. Our experts provide participants with tips and tricks that make their daily work with our systems and the corresponding processes more efficient. This is an ideal expansion of our service portfolio,” says Markus Plocher, Head of after Sales at KROENERT. “During the training, customers learn everything about our innovations and discover how they can improve their procedural processes. At the same time, this direct contact with our customers permits us to find out whether they are satisfied with our systems and when they encounter problems and limitations. This gives us the opportunity to continuously improve our systems and come up with innovations. A real win-win-situation which strengthens our partnership and makes it more successful,” explains Wolfram Szczepaniak, Head of Technology at KROENERT.

## Tetra Pak Introduces Digital “Factory of The Future”

Tetra Pak has developed what it calls the “factory of the future” by using digital technology to revolutionize the way food manufacturing plants operate. In this new environment, machines will be able to communicate with each other as well as with the digital systems of the entire operation, automatically taking on tasks such as diagnosing

problems, ordering and delivering parts and looking for an engineer who is most suitable for the service needed. The food processing and packaging solutions company has been working on the digitalization food manufacturing with partners including Microsoft, ABB, SAP and the automated logistics solutions provider Elettric80. Tetra Pak's ambition is to lead the digital transformation of food manufacturing and offer greater support to its customers in the digital era.

Supported by these smart solutions, the human workforce will be able to focus on managing the plant, making quick, informed decisions and continuously increasing the speed of production, reducing errors and minimizing product waste. 'We are in a period where the market is changing at high speed," said Johan Nilsson, vice president of Industry 4.0 and digitalization at Tetra Pak. "Consumer demands coupled with regulations require a new way of food manufacturing that is much more efficient and food-safety guaranteed. At the same time, we believe humans should continue to be at the center of the management of food manufacturing, with digital solutions as their support." Meanwhile, Tetra Pak and digital technology solutions provider ABB have created a digital energy assessment program, to help food producers reduce their environmental impact and cut costs.

According to the news the program provides an assessment of the entire plant. Based on this analysis, Tetra Pak provides recommendations for food producers on opportunities to reduce energy consumption and help them make informed decisions about how resources are used in their plants. Following pilot projects in the Americas, Tetra Pak and ABB believe that the program can potentially reduce carbon emissions for food and beverage manufacturing and cut energy costs by between 15-25 per cent. "There is a sense of urgency for all industries to reduce their environmental impact across their operations and we are developing programs together with our partners to reduce this impact for our customers and the overall industry," said Johan Nilsson, vice president at Tetra Pak. "The plant assessment program is an excellent example of an area where we have found and created opportunities for environmental savings."

## Nestlé And Veolia Join Forces To Tackle Leakage Into The Environment And Develop Recycling Schemes

The partnership will also explore technologies to establish viable models of recycling in different countries. This includes chemical recycling technologies like pyrolysis, which is capable to produce virgin quality plastic. These technologies will help Nestlé to increase the recycled content of its bottled water packaging to 35% and its overall product packaging to 15% by 2025.Magdi Batato, Executive Vice President, Head of Operations, Nestlé, said: "Plastic waste is a challenge that requires an ecosystem of solutions all working simultaneously. This partnership is another specific step to accelerate our efforts in addressing the critical issue of plastic waste. Leveraging on Veolia's technology and expertise, we will start with pilot projects in multiple countries, with the intention of scaling these up globally."

Laurent Auguste, Senior Executive Vice-President for Development, Innovation and Markets, Veolia, said: "I am very pleased and welcome the opportunity of this partnership with a global F&B leader like Nestlé, in the quest for a more circular economy of plastics. Our expertise in resource recovery and recycling has positioned us to tackle this issue with global brands and other value-chain actors, across all continents. We believe it is time to move towards more recycling of materials and we are happy to help our clients be ever more inventive so they can keep improving our

quality of life, whilst protecting our planet and its resources. ”This partnership with Veolia follows a series of specific initiatives and steps to accelerate action to tackle plastic waste, in line with Nestlé's commitment to make 100% of its packaging recyclable or reusable by 2025.

## BOBST North America Confirms Apex North America as the Preferred Partner for Web-Fed Division in United States and Canada

According to the press release issued by company the agreement relates to Apex being the preferred anilox manufacturer for the Web-fed Division. (Flexible Packaging, Pre-Print and Narrow-Web presses)The agreement allows Apex and BOBST to work together to promote the REVO program and the key added value around a solution-based offering to the market, with BOBST innovative narrow-web presses combined Apex GTT patent Anilox engraving this unique combination brings a clear intent to support our customers.

Apex remains the only anilox company to offer every possible engraving and roll composition in the market today, giving BOBST a complete and full anilox selection from conventional to GTT to meet all of their web-fed customers printing and coating needs. “We have a long working history together in the industry. We are bringing innovative development technology to projects, like REVO in the Narrow-Web label and packaging industry,” says Todd Blumsack, Vice-President, Business Unit Web-fed of BOBST North America Inc. “The agreement will also work in the direction of promoting each other’s technology, as the seamless integration of our solutions, adding more value to the relationship with our clients in the American and Canadian printing and converting market.”"Apex and BOBST have been working together for many years globally, now being chosen as the preferred vendor for Anilox for the BOBST North America Web-fed division flexible, pre-print and the key partner for the REVO narrow web presses allows both companies to promote each other's technologies and the significant value they bring to our customers and prospects throughout the USA and Canada,” said David McBeth, Vice-President of Sales, Apex North America LLC.

## Mitsubishi Chemical Completes Indian Acquisition, To Add TPE Capacity

Mitsubishi Chemical Corp. is planning to build a facility to manufacture thermoplastic elastomers (TPEs) at the site of its recently acquired production plant in Silvassa, eastern India. The project is scheduled to come on-stream by the end of fiscal 2019, with products destined for the automotive interior market, Mitsubishi Chemical said 29 March. The Japanese company is adding the unit at the site of the former Welset Plast Extrusions’ PVC compound business, which it acquired in March. Post-acquisition, the business has been renamed as MCPP India Private Ltd.

MCC currently outsources the manufacturing of thermoplastic elastomers in India. With the acquisition of Welset Plast and the construction of the new facility, MCC said it will upgrade its performance polymer supply system to meet the increasing demand. Based in Mumbai, MCPP India has a regional office in Gurugram, near Delhi and a production plant in Silvassa. The company manufactures PVC compounds for medical and automotive electric wires & cables; as well as thermoplastic elastomers for the car industry.

# DIC PAKISTAN LIMITED

## *Organized Awareness Session on Health & Safety Collaboration With Flexible Packaging Association of Converters Of Pakistan*

The Printing Industry lives and works in a fast paced world. Companies go to great lengths to win and retain customers. The nature of customer needs and the marketplace means the printing industry cannot afford downtime or costs associated with property loss, equipment failure, accidents and injuries. Operations at Printing and Solvent handling businesses involve many hazards concerning flammability and explosions due to volatile organic compounds so fire loss is very real in the printing industry. The printing industry must live within this hazardous environment and try persistently to mitigate these risks for the integrity of this business.

DIC PAKISTAN LIMITED worked a lot in HSE (Health, safety and Environment) globally and committed to share HSE related risks management practices / guidelines to its valuable business partners in the whole supply chain as corporate social responsibility which eventually contributes to sustainable development for all stake holders.

DIC PAKISTAN LIMITED believes that communication with stakeholders carries as much weight as its own business planning. It make efforts to grab every communication opportunity, such as seminars, exhibitions, website, and events.

DIC PAKISTAN LIMITED initiated an awareness project for its customers on HSE related Risk Management & Fire Safety and conducted a seminar for its valuable business partners of Faisalabad Region in collaboration with Flexible Packaging Association of Converters of Pakistan (FlexPack). Being a multinational corporation, it was a worthy opportunity for DIC to share exposure and experience on international safety standards and offered its support services voluntarily and free of cost at printers site.

The core subjects covered in this seminar included:

1) Fire Safety
2) 5S- A housekeeping technique
3) Chemical Safety
4) Static Charge control
5) Significant industrial hazards
6) Personal Protective Equipments

Around 50 owners of various printing companies along with their key staff attended this session overwhelmingly in pursuit of awareness regarding HSE. Seminar was very well received by all printers and positive feedback was given on the approach of DIC and printers appreciated the gesture of DIC and determined to welcome DIC-Team at their premises to conduct Safety Audits so that their measures could be inspected and to attain more guidelines on HSE related risk management and fire safety.

At the End of the session, sumptuous lunch was served for the valuable guests by DIC Pakistan Limited.


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# Global 3D Food Printing Market Anticipated to Reach $525.6 Million by 2023

According to a new market intelligence report by BIS Research, titled 'Global 3D Food Printing Market Analysis and Forecast 2018-2023', the global 3D food printing market is expected to reach $525.6 million by 2023, rising at a CAGR of 46.1% from 2018 to 2023. This growth is attributed to the rising awareness among the food innovators about the need to elevate food manufacturing systems.

The rising concerns regarding global food security and sustainability have facilitated massive investments by food-tech companies across the world. The global 3D food printing market is strongly motivated by the increasing demand for customized food products with nutrient content tailored for individual dietary needs. In the upcoming years, 3D food printing is projected to create a massive impact on the food economy by bridging the gap between small- and large-scale businesses. With the application of 3D printing technology for food production, the management of food inventory is expected to become easier and inexpensive. Moreover, 3D food printing also offers significant market opportunities for fast-moving consumer goods (FMCG) food manufacturers to produce healthier food, as this technology can regulate the use of preservatives, additives, and other chemicals. Presently, 3D printing applications for food are primitive, with limited possibilities of structures and textures.

However, with further development of innovative technologies, the food fabrication process by 3D printing is expected to expand. According to Sonali Mazumdar, an analyst at BIS Research, in 2018, the fused deposition modeling technology is expected to hold more than 64% share of the total 3D printing market. Moreover, the commercial food vertical currently holds the largest market share of over 43% in the global 3D printing of food. The commercial segment includes bakeries and confectioneries, high-end restaurants, and retail stores. This segment is the largest end-user of 3D food printing devices as this technology enables the user to bring artistic capabilities into cooking and expands customization features in the culinary industry. Moreover, 3D food printing technology has established itself to be an innovative solution for significant applications in the government vertical for the military and space research and in educational institutes. The 3D food printing technology has paved its way in the hospital food sector as well, owing to its nutrient customization and easy chew ability features.

Currently, the market for 3D food printing in the residential vertical is at a nascent stage owing to the high cost of set-up and lack of expert personnel. Furthermore, the 3D food printing market by food types is currently dominated by confections such as candies, chocolates, cakes, and pastries. Chocolate, sugar, and marzipan are the most commonly used material for 3D printing, owing to their ability to be easily printed and extruded into different shapes. Thus, the confections are the largest end-product for 3D food printing technology, and the segment creates significant opportunities in the 3D food printing market of personalized products. Apart from confection items, 3D food printing is rapidly being incorporated in the fabrication of other food objects such as dough-based items, such as pizza, pasta, cookies, and pancakes.

Moreover, the fabrication of 3D printed meat products is also expected to increase during the forecast period. Key players operating in this market have ramped up their product launch activities over the recent years to generate public awareness about their existing and new products and technologies, and compete with the competitors' product portfolio. Partnerships and collaborations strategies have also been significantly employed for expansion in the 3D food printing market. With the increasing growth in the global market, companies operating in this industry are compelled to come up with collaborative strategies with restaurants, retail stores, and other commercial food segments to sustain in the intensely competitive market.

# Is *NANOTECHNOLOGY* .... the Future of Food Packaging?

Nanotechnology is a growing interdisciplinary technology often seen as a new industrial revolution. Nanotechnology is increasingly attracting worldwide attention owing to its wide range of end users. Whether it is solar power industry where nanotechnology-based solar panel are developing or biomedical industry where nanotechnology has proved helpful in the treatment of Cancer, the nanotechnology has marked huge success. Considering the above factors and with the development of advance nanomaterial, the global nanotechnology market is anticipated to grow at a CAGR of around 16.5% during 2014-2020. Nanotechnology may not be a household term just yet, but it's quickly finding its way into food packaging for the benefits and functionality it provides. Learning more about these different technologies including the types of nanomaterial's that can benefit the food industry may help to revolutionize the way foods and beverages are packaged, transported, and ultimately sold, too.

## *What Is Nanotechnology, Exactly*

In application section, use of nanotechnology in electronics, energy, cosmetics, medical, defense and food & agriculture sector has been studied. In terms of component, the nanotechnology market can be segregated into nanomaterial, nano-tools and nano-devices. Specifically speaking, nanotechnology is a type of technology that only deals with dimensions of less than 100 nanometers. To put that into perspective, 100 nanometers is the exact same size as one ten-thousandth of a millimeter. Often, nanotechnology refers to the manipulation of atoms and molecules in a way that benefits an industry or setting. That's exactly the idea behind nanotechnology in the food packaging industry, and studies suggest that changing the types of packaging we use at the molecular level could result in fresher, better-tasting, and even healthier foods.

## *Three Categories of Benefits*

Theoretically speaking, the ways in which food industries could benefit from using nanotechnologies in their packaging fall into three categories. These include improved, active, and "smart" packaging, each with its own distinct set of benefits.

- **Improved Packaging -** As nanotechnology and the resulting nanomaterial's continue to improve in time, this will likely be the most common use when it comes to food packaging. Packaging made from nanomaterial's could provide a better barrier against things like humidity and even oxygen that can cause foods to become stale or even rot, thus improving their overall shelf life.

- **Active Packaging** - Though rarer, active packaging would include very tiny nanomaterial's that would actually interact with the food inside or the environment outside in some kind of beneficial way. For example, there are some materials that do a great job of fighting off microbes both on the packaging and on the food, which could reduce foodborne illness a great deal.

- **Smart Packaging** - Finally, smart packaging is incredibly high-tech and could potentially serve consumers well in the future. With it, food manufacturers could use nanotechnology in the packaging to help consumers identify whether any changes have occurred within that food. In other words, such technologies could tell consumers whether a particular product is still fit for consumption. Other technologies may be able to identify nutrient content and display it on the package in real time, and still others may be able to thwart counterfeiting and tampering.

## *Will Nanotechnology Become Commonplace*

Right now, we are a long way from nanotechnology being used to produce active and smart packaging for food products, but it is theoretically possible, and the implications are measurable. However, packaging companies are already working on (and perfecting) using nanotechnology to improve existing packaging through the manipulation of packaging materials at the molecular level. Only time will tell whether smart and active food packaging fueled by nanotechnology is the future. The potential benefits are numerous, and in a day and age where consumers are more health and safety conscious than ever before, it may just be that one day, the FDA and similar global groups will require such packaging.

*An Exclusive Interview With:*

**MR. ANTONINO FURFARI**

Managing Director

Plastics Recyclers Europe (PRE)

***1) Packaging Pakistan: How Does European Recycling Association Work in Europe and other countries? And where does whole world stands.***

Plastic Recyclers Europe provides plastics recyclers with representation at the European level and among the leading industry organizations. It promotes the use of quality plastic recyclates and offers concrete advice to develop innovative products and packages that have an eco-friendly design. Plastic Recyclers Europe is a network of more than 125 recycling companies (which reprocess plastic waste by grinding, washing and extrusion into new raw material) and plastic value chain actors (including brand owners, raw material producers). The association consists of 6 Working Groups representing the interests of different segments based on the type of polymer or waste processed.

These WGs meet several times Plastic Recyclers Europe year, aiming to establish valuable contacts throughout the entire value chains, looking for solutions which can help advance the recycling and ultimately seeking to increase recycling and collection rates to ensure quality recycling. Within the Plastic Recyclers Europestructure there are also 5 taskforces: Communication & Advocacy, REACH, Standards & Certification Design for Recycling, and Governance & Finance. Coordination of work among the taskforces ensures that the goals of the association are streamlined.

Plastics recyclers are important facilitators of the circularity of plastics and the transition towards the circular economy. Plastics recycling industry in Europe is a rapidly growing sector representing €3bn of turnover, 6.6 MT, of installed recycling capacity, 500 companies and 18.000 employees. Another regional recycling association with whom PRE (Plastic Recyclers Europe) collaborates is APR (The Association of Plastics Recyclers, USA).

***2) Packaging Pakistan: What are the necessary steps a plastic product undergoes during a recycling process?***

The plastic recycling process (mechanical recycling) varies depending on the type of polymer and waste that is processed. However, the general paradigm is that baled waste (coming from a sorting center) is unbaledat a recycling facility where additional sorting steps are performed, the waste is then shredded/grinded, washed, further purified (from any remaining contamination, non-targeted materials), melted, filtered and extruded into a new product (e.g. pellets) that can be used in conversion/manufacture. Moreover, additional steps (decontamination) are performed for food contact applications.

***3) Packaging Pakistan: Circular economy is an important tool to challenge energy consumption, resources depletion and pollution, how can Plastic & Packaging Industry in world benefit from it and also its implementation in Pakistan?***

Of the utmost importance for the plastics industry is to make plastics products are circular and as a matter of fact compatible with recycling. This implies a strong collaboration across the different actors of the value chain. Only by engaging raw material producers, manufacturers/converters, brand owners, retailers and recyclers can the industry succeed in transforming ill-managed end-of life of plastics. Recycling has a positive environmental impact and will benefit the image of plastics.

***5) Packaging Pakistan: Can you tell us the European strategies for Plastics in a Circular Economy, part of the transition towards a more circular and resource efficient economy.***

The EU strategy is to transform the current waste management of plastic, by capturing the maximum of this valuable resource and reprocessing it into a

new material. The following are crucial for achieving circularity of plastic:
(a) Design for recycling, (b) Increased collection and sorting, (c) Uptake of recycled material in the new products, (d) Limiting exports of plastic waste outside the EU, (e) Ban on landfill of plastic waste

This includes establishment and implementation of an EU wide certification as well for recycling facilities to ensure waste traceability (already existing: EuCertPlast https://www.eucertplast.eu/) that should be extended to the whole value chain (ensuring the origins and content of recycled materials). The overall EU strategy for plastics can be found here: http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy-brochure.pdf

***6) Packaging Pakistan: Current scenario Packaging industry facing lot of challenges in world how you play your positive role to educate the whole industry?***

Plastic Recyclers Europe has developed RecyClass, an initiative that is working towards advancing recyclability of plastic packaging. RecyClass consist of a free online tool and the RecyClass Platform. The tool aims to help the plastics value chain find the correct way to and approach and evaluate the recyclability of their packaging products. RecyClass provides specific indications and recommendations on how to improve packaging design to fit current recycling technologies. Furthermore, the RecyClass Platform engages and support brands and the plastics value chain in their efforts to increase the recyclability of their packaging. The platform carries out testing's of the different innovations and evaluates their impact on recycling. It is a scientifically based approach towards recyclability that could be a benchmark/ could be applied and endorsed by the whole value chain.

***7) Packaging Pakistan: As you know, unfortunately, majority of plastic products used in world are not been properly disposed of in suitable ways?***

The current waste management of the plastics needs to be overhauled allowing for sustainable plastic production and its treatment at the end of life. We need to start with the sustainable manufacture of a plastic product that needs to be produced in a way that they are compatible with recycling.

***8) Packaging Pakistan: Nowadays, is time most of the major issue in biodegradable plastics many studies we found degradation is limited due to the lack of oxygen? What is your opinion and how is your association's progress so far?***

Biodegradable plastics are not separately collected in Europe today. Due to their incompatible chemical properties with respect to conventional plastics they cause losses in the recycling lines by downgrading the quality of the final output. Consumers today are not able to differentiate between biodegradable v/s conventional plastics, and this creates confusion. As a matter of fact, biodegradable plastic end up often in the conventional streams. It has been proven that even small quantities of these materials will impact negatively the recycled output.

***9) Packaging Pakistan: In marine environments, biodegradable products behave differently and very often their degradation is slowed down? How can we safeguard marine life?***

Of utmost importance is the increased collection and sorting. We should not reinforce littering habits with products like biodegradable materials which need to be collected separately and (most of them) treated in industrial facilities/conditions. Additionally, there are number of biodegradable products put on the market and effectively they have different degradability requirements.

***10) Packaging Pakistan: What are your Association's stand and official statement on Plastic & the Environmental decoding the buzzword like degradable (oxo- degradable)?***

A distinction has to be made between oxo-biodegradable and bio-based plastics. Oxo-degradable plastics will be restricted by the EU legislation as they adverse effects on the environment were officially attested. Oxo-degradable plastics are conventional plastic (petroleum based) materials with artificial additives that do not biodegrade but merely fragment into small pieces, therefore once in the environment they pose an extreme risk to soil pollution. Biobased plastics on the other hand share the same chemical properties as conventional plastics and do not cause disruptions of the recycling process.

# Growing Demand For Halal Testing

The world population is predicted to be 9.4 billion in 2050, an increase of 2.4 billion. To put that into perspective, it is expected that we need to produce between 60-110 percent more food. This population is expected to be wealthier, eating more and eating differently, with meat consumption expected to noticeably increase as incomes rise. As a result, the demand for Halal products is expected to significantly increase. There are currently around 1.8 billion Muslims around the world, and the global halal industry is estimated to be worth around US$2.3 trillion (excluding Islamic finance) which is growing at staggering rate; an estimated annual rate of 20 percent. It's one of the fastest growing consumer segments in the world and it's no longer confined to food and food related products as is often presumed. The halal industry has now expanded far beyond the food sector to include pharmaceuticals, cosmetics, health products, toiletries and medical devices as well as service sector components such as logistics, marketing, print and electronic media and packaging. This illustrates the commercial opportunities for many businesses producing and distributing Halal products.

But with these opportunities, comes the increasing demand for independent Halal certification from buyers and consumers. What is driving this is not absolutely clear but certainly the fact that the Gulf countries import almost all their food and recent high profile cases in the media of food adulteration are likely to be factors. Also, as the number of products increase, so does the number claiming to be Halal, leading to a demand for official verification. Purchasers need to have trust in their suppliers, and when trading in an international market, it can be

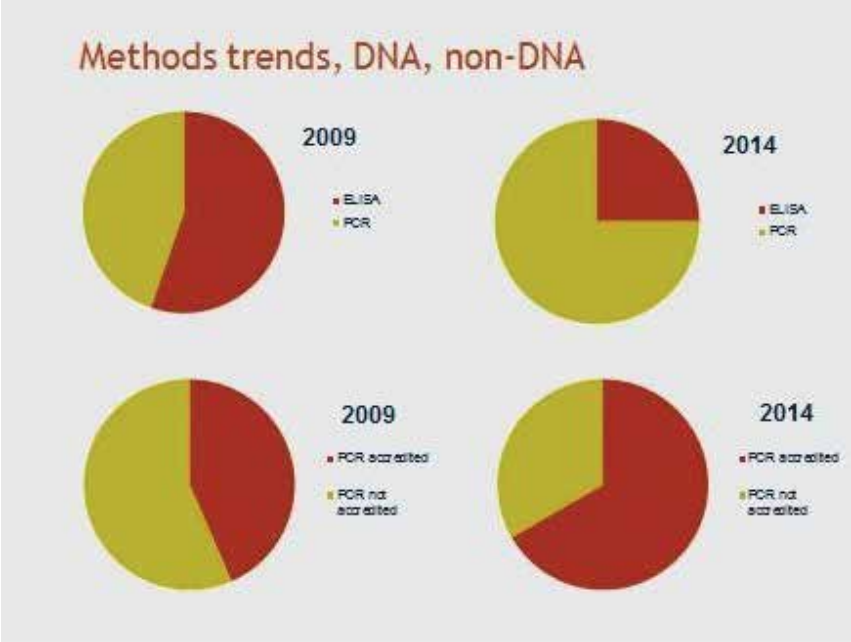
difficult to be certain of the supplier's authenticity without recognized testing.

## *HALAL TESTING*

So what can we test for? The definition of Halal depends partly on interpretation of the Koran. There are religious (ceremonial) as well as practical elements to the definition. In terms of scientific testing, we have to define Halal food products as being free of non-permitted ingredients. Basically, this refers to cross contamination; either by accidental cross-contamination or adulteration for economic gain. To date, there is no laboratory test on the market that can determine the way in which an animal is slaughtered. Therefore, the scientific testing within the Halal industry is strictly concentrated on contamination.

This is easily explained using the example of meat, and the presence of pork. Species of origin testing is obviously paramount in this market. This can be carried out using DNA or protein sequencing. The DNA structure of specific meats is different, so by close inspection of the genetic order, you can identify the species. The need for this testing will likely become more and more important, particularly as the consumption of ready meals in the Halal market increase. It has been found that ready meals have the highest risk of being contaminated, for example, in ready-made lasagna or burgers. Simply, it is easier to contaminate and therefore this has become an area of the food sector that is increasingly under the microscope.

Another concern of Halal consumers is the contamination with alcohol, particularly in confectionery or soft drinks. Alcohol is a very effective and relatively inexpensive preservative




that can therefore be attractive as an ingredient for economic gain. Avoidable examples would be liqueur-centered chocolates or sauces made with a wine reduction (alcohol is not necessarily all boiled off) but this would depend on correct labeling. Even an percentage as small as 0.1 % of alcohol should be readily detectable with current technology. Detection capability is always improving however, across all analytical disciplines, so the same would be true of Halal detection.

## *CHALLENGES TO ACHIEVING HALAL CERTIFICATION*

There are various organizations throughout the world that carry out Halal certification. Certification usually involves inspection of food preparing facilities and abattoirs for compliance. The main challenges are for manufacturers attempting to produce both Halal and non-Halal foods. There would have to be totally segregated facilities to avoid cross-contamination and staff trained specifically in Halal production. This is a significant cost to a business, requiring them to build the infrastructure to enable them to effectively segregate all procedures involved with the manufacture of the products. As a result of this, there will likely be an expected rise in the demand for disclaimer labeling, whereby food manufacturers have to declare other products made in the same location. Future food manufacturers will have to accept they will need to be transparent in all their activities to gain the integrity required on the changing global market.

Food testing laboratories similarly have to have segregated facilities to handle Halal and non-Halal (or suspected non-Halal) facilities. Logistically it can be very challenging. But it is critical to have segregated facilities to ensure reliable results. For them to be able to confidently offer the service, labs often have agreements to test each other. Historically, this has been acceptable in some countries, with Halal being very much a self-regulatory industry. However, the growing demand and the globalization of the food industry means that international businesses now dictate more formal and recognized methods of accreditation are used.

Labs are coming under more and more pressure to meet the International Standard for Scientific Methods (ISO 17025), which is internationally recognized and requires the lab to be proficiency tested from an accredited quality assurance body. This demonstrates to the marketplace competence in Halal testing. It is now a major selling point for labs to meet ISO 17025 in, as previously explained, a growing and significant market. The need to change is not exclusive to the food manufacturers or the labs either. The quality assurance bodies, who are responsible for giving the labs accreditation, and ensuring their testing methods are reliable, have also needed to adapt.

## *FUTURE OF HALAL*

New and exciting innovations in the testing methods for Halal products are currently being developed and labs are investing heavily in the research of testing methods and the technology to carry out the tests. These promise to offer the ability to detect contaminants at extremely low levels; much lower than previously achieved. And as these tests get more and more sensitive, the trust and confidence in Halal certification will increase; this is important for the credibility of the industry. It is crucial that consumers are confident on the authenticity of the Halal products they are purchasing for the future success of this changing industry. It is an exciting marketplace to be involved in and one that has so far embraced the added scrutiny it has been under. Credit needs to be given to the Halal industry for being so open to change which they acknowledge is necessary for the future of the industry.

## Esko Launches Automation Engine for HP Indigo Customers

Esko has unveiled a tailored version of Esko Automation Engine, designed exclusively HP Production Pro for Indigo L&P DFE users to increase capacity in upstream prepress processes and boost productivity in digital labels and packaging production. Esko has unveiled a tailored version of Esko Automation Engine, designed exclusively HP Production Pro for Indigo L&P DFE users to increase capacity in upstream prepress processes and boost productivity in digital labels and packaging production.

Esko Automation Engine for HP Indigo is prepress automation software that drives more jobs faster to HP Indigo labels and packaging presses and incorporates features specifically designed for the digital printing environment. The bespoke software, which is easy to implement and intuitive for users, is being showcased at Dscoop Edge 2019 conference in Orlando, Florida, March 24-27.HP Indigo has recognized the need for prepress automation to enable customers to take maximum advantage of their press capabilities and this new collaboration is reflective of the evolution in the strategic relationship between the companies in color and workflow focused innovation.

According to Alon Bar-Shany, General Manager of HP Indigo commented: "HP Indigo digital presses are the leading technology driving digital transformation in labels and packaging. Esko's prepress workflow automation software can significantly increase productivity for HP Indigo customers. By automating prepress, jobs can be delivered faster and more accurately to maximize press capacity." At Dscoop Edge, delegates will discover how the new prepress software creates complete visibility of press resources and activities through its bi-directional connection capability. Additional unique benefits include automatic multi-SKU layouts and the ability to combine static and variable data jobs in one production run. Enabling superior prepress quality control, including version comparison, barcode and braille reading, the software accelerates operator efficiency and reduces waste with unique digital layout capabilities.

With the global print industry experiencing more frequent production jobs, reducing run lengths and shorter lead-time demands from brands, digital presses are growing in popularity to meet the challenge. However, digital printing relies on the efficiency of the prepress process to optimize overall equipment effectiveness (OEE). Esko President Mattias Byström said: "As digital press speeds accelerate, the only way to guarantee a fast return on investment today, and for years to come, is to adopt prepress automation. The new Automation Engine edition for HP Indigo is another important vehicle to help customers automate. HP Indigo and Esko complementary technologies drive efficiency across the packaging supply chain to meet the needs of brands around the world." In addition to the launch, Esko industry standard applications, Esko Deskpack and Esko ArtPro+, will now also be hosted on the cloud-based HP PrintOS Market Place, alongside the full Esko Automation Engine software package. Customers can upgrade to secure a comprehensive portfolio of prepress solutions to drive OEE in the digital printing environment and help them achieve maximum press uptime.

## 3D Printing Is a Potential Game Changer For Global Power Market, According To Global Data

One of the most innovative and disruptive technological advancements that will transform the global power industry is 3D printing (Additive Manufacturing), says GlobalData, a leading data and analytics company. Recently, additive manufacturing (AM) has found its application in different sectors of the power industry, both in building prototypes and in main stream production leading to process simplification and operational efficiency. Contrasting to the prevalent manufacturing processes, additive manufacturing can produce components with complex geometries, consume fewer raw-materials, produce less waste, have reduced energy consumption and decreased time-to-market. GlobalData's latest report, '3D Printing – Potential Game Changer for Global Power

Market', highlights key developments and trends to understand the influence 3D printing will have in transforming the power sector.

According to the Ankit Mathur, Practice Head of Power at GlobalData, comments: "With the power industry under pressure, manufacturers are turning towards AM for solutions with reduced costs and shorter timeframes. During the initial phase of making inroads in the power industry, 3D printing has achieved a fair level of success with the power industry and technological firms creating an ally for the benefit of each other." 3D printing – a cutting-edge technology is gradually finding its application in various facets of the power industry including renewable and conventional power sectors and battery storage devices. 3D printing of solar panels, wind turbine parts and conventional power

generation equipment such as heavy duty ancillary parts of gas and steam turbines reflects upon its reliability and versatility. This technology is also finding its application in the nuclear power industry, including new builds for fuel and for in-reactor components. However, qualifying the material and demonstrating that components meet nuclear codes and standards will remain a key challenge for applications in this particular industry. Mathur adds: "Additive manufacturing has already resulted in shorter lead time, reduced costs and increased efficiency, and is expected to further improve with the invention of larger printers. However, as the technology is still in experimental stage and yet to achieve full commercialization, it will be a matter of time to fully understand how deep this new technology can penetrate in the power industry, given the high equipment standards required for efficient plant operation and the hazardous environment they endure."

## Tetra Pak Launches Connected Packaging Platform

According to the news Food packaging and processing company Tetra Pak has announced the launch of its connected packaging platform, which will transform milk and juice cartons into interactive information channels, full-scale data carriers and digital tools. The platform has placed code generation, digital printing and data management at its core and Tetra Pak hopes that it will bring a range of new benefits to food producers, retailers and shoppers. For example, producers will gain end-to-end traceability to improve the production of their product, quality control and supply chain transparency. The platform will offer producers the ability to track and trace the history or location of any product, making it possible to monitor for market performance and any potential issues. Meanwhile, according to Tetra Pak, the platform will offer retailers greater supply chain visibility and real-time insights, enabling distributors to track stock movements, be alerted when issues occur, and monitor delivery performance.

Finally, shoppers will be able to access key information such as where the product was made, the farm that the ingredients came from and where the package can be recycled. "We are unlocking new opportunities for our customers to get more value from packaging than even before," said Ivan Nesterenko, vice president, cross portfolio at Tetra Pak. "No longer is it only about product protection and functionality, it is about connectivity. The future of packaging is undoubtedly digital, this launch is a step towards a truly intelligent package, and we are excited to collaborate with our customers on this journey." Tetra Pak has successfully completed pilots with its customers to test the new connected package and its performance in retail in Spain, Russia, China, the Dominican Republic and India, working with beverage, juice and milk producers. According to the company, in Spain a customer increased their sales by 16 per cent through the scan and win campaign.

## MPS, Esko And CERM Connect Their Solutions And Demonstrate The Production Workflow Of The Future At A Successful 'Labels Connected' Event

The event, organized by MPS, Esko and CERM and supporting partners AVT and Domino, attracted over 60 professionals from the European label industry. This was much more than anticipated, said Fredric Vanvinckenroye, Field Marketing Manager EMEA at Esko: "The event revealed that truly understanding connectivity and embracing a new mindset is clearly a need in the industry. MPS and its partners are leading the way in innovation - together addressing label printing requirements and challenges with connectivity integration." Labels Connected started with the partners presenting a framework of drivers behind the need to connect people, processes and systems, as well as reviewing trends and innovations in the label industry. Peter Overbeek, CEO of the Dutch printing company Eshuis concluded the plenary session with a compelling story sharing Eshuis' experiences with the implementation of connectivity to the print shop.

The presentations and workshops were well-received by the international guests, of which over 60% were printing companies. During the workshops, there was enough time for one-on-one discussions with the organizing suppliers. Because of the success of this first edition of Labels Connected, the organizing partners decided to host a second edition mid-2019. The date, location and program will follow.

## Blown Film Production: Production Boost With New Die Head & State Of The Art Automation Modules

According to the press release the Tunisian film manufacturer CNP has modernized its blown film line (2,400 mm) from 2007 with a new MAXICONE C three-layer die head (size: 315/500) by W&H. Additional to that, CNP also retrofitted the existing machine with the automation modules PROFILE BOOSTER and EASY CHANGE. Whereas PROFILE BOOSTER is accelerating the gauge control for faster job changes and start-ups, EASY CHANGE can be seen as an "Auto Pilot" for blown film lines. EASY CHANGE is adjusting all format relevant machine parameters fully automatically, including the cooling air. This results in fast format changes and eliminates operation mistakes. The outcomes of these modifications at CNP: "Job changes now only take 3 minutes due to the higher level of automation. Previously, we needed a multiple of this. Waste has been reduced by four/fifths to around 20 kg. With the modernized line we produce shrink film at 610 kg/hour and laminating film in 25µ at 500 kg/hour, which is an output increase of more than 20 % ", explains Ameur Chamakhi, Managing Director Production at CNP. "We promise our customers the highest quality combined with maximum economic efficiency. That is why we are investing in the modernization of our systems," says Walid Chatti, Managing Director Sales at CNP.

The entire retrofit implementation on site, with partner Windmöller & Hölscher, took only about a week - from initial dismantling of the old die head to

the start of production with the new die head and software. "The VAREX is CNP's main blown film line. We planned the installation of the new die head in detail and carried it out without delay to keep downtime to a minimum," explains Hendrik Steen, the Head of Retrofitting at W&H. “W&H accompanied us from the initial planning stage to the resumption of production. The implementation by the experienced technicians was fast and high-quality. A well-done job all round," Chamakhi confirms. In 2007 CNP invested in a VAREX 3-layer blown film line, mainly to produce agricultural and industrial films. "More than ten years ago CNP commissioned the first VAREX in the Maghreb region. This shows the pioneering position of CNP. Since then, CNP and W&H have been in regular contact on how to maintain production performance at the highest level," says Carsten Varney from W&H Sales. CNP was founded in 1958 and is the oldest Tunisian plastic processing company. Today, CNP is a market leader in Tunisia and neighboring countries with approximately 170 employees and a production of 10,000 tons per year. The company specializes in the production of agricultural and industrial packaging.

## Record Production Achieved On A W&H Convertex At Kushal Plasto, India

*On the day when the whole world was setting New Year milestones, W&H's partner Kushal Plasto had geared high and head started with a record production welcoming the year with a success badge. The engineers at Kushal's Medchal plant achieved the highest-ever production of block bottom bags in a day. The team produced close to one hundred and fifty thousand AD ProTex bags from a single CONVERTEX machine. The management believes this success is owed to their expert team, efficient utilization of resources, adherence to processes and use of high-quality fabric.*


At present, Kushal has one-of-a-kind Greenfield project for production of AD ProTex bags in South India. Their new plant was inaugurated in August last year under the able leadership of Mr. K.C. Jain. Realizing the growing market for PP woven block bottom bags in India, Mr. Jain had laid foundations of the plant in the Telangana region. He was recently commemorated with the Life-Time Achievement Award for his contributions to the Indian Cement Industry, completing 50 meritorious years of leadership and service. W&H believes that this achievement is owed to Kushal's expert team, who quickly streamlined their efforts to defined processes and efficiently utilized the high-performance machine, extracting the maximum output. They have been efficiently running two W&H CONVERTEX block bottom sack production machines since August.

Windmöller & Hölscher spearheaded many innovations in woven PP. One of the fundamental developments was the CONVERTEX, which heat seals woven PP cross bottom bags and thus eliminates the need of glue for this type of bags. Also today CONVERTEX forms the backbone of the extensive portfolio of Windmöller & Hölscher in the woven PP business. During the last 10 years, the output of the Bottomer has doubled from 60 bags/min to 140 bags/min, representing the technological leadership of W&H in the domain of AD ProTex block bottom woven bags. The record production figure achieved by Kushal also showcases that CONVERTEX is designed to perform consistently at top speeds. AD ProTex bags offer various advantages over conventional stitched bags including betters filling efficiencies, no pilferage, easy stacking, temper resistance, no counterfeiting, no stitch holes and no leakage, These bags offer immense marketing value and greater visibility due to its box type shape. With highest print quality on the coated fabric, the bags also have astounding aesthetics.

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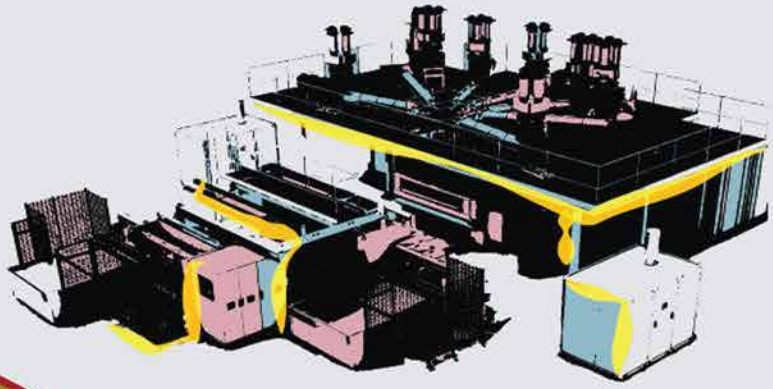

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## Flexible Packaging Association Converters of Pakistan Karachi City Meeting

Flexible Packaging Association of Converters of Pakistan invited renowned companies from Flexible Packaging Industry of Karachi, for South Zone meeting program followed by Hi-Tea in local hotel at Karachi. Mr. Jawed Butt, Senior Vice Chairman of the Association warmly welcomed and shared some highlights alongwith Mr. Saad Habib, Executive Committee Member to the members regarding work in progress of association. Mr. Saad Habib also informed to the members that Flexible Packaging Association of Converters of Pakistan is first Pakistan's Packaging Association to become a part of international platform World Packaging Organization (WPO). Mr. Saad Habib also shared that WPO invited him and Mr. Jawed Butt to attend World Star Ceremony Award and WPO Executive Board meeting at May 13-17th, 2019 at Prague. In this meeting Mr. Saad Habib gave detailed presentation on Pakistan's flexible Packaging Industry after which, WPO Executive Committee had awarded FLEXPACK its membership. Additionally, various issues had been discussed in the meeting like cylinder cost and cost of raw material due to escalating dollar impact. Another main issue highlighted wherein as per government policy whereby collection of CNIC from customers and vendors both is being made mandatory on both purchases and supplies. Due to which industry are facing problems, it was also discussed in Association's meeting and concluded that all members will strictly forward the message to their clients that CNIC will be required for any work being done. Association also advised its Members to not take any work order without CNIC as it will be violation of law and Members will face difficulties. Therefore, all customers should be informed beforehand. Association will not be able to help any Members if they will not take CNIC and violate the law of the land as defined by legal framework.

Mr. Jawed Butt Senior Vice Chairman, Mr. Tarique Rehman, Mr. Saad Habib Executive Committee Members & Mr. Saadat Eijaz, Former Sr. Vice Chairman/ Patron and 20 member companies participated in the event and shared their views on different issues.

## Flexible Packaging Association Converters of Pakistan Faisalabad City Meeting & Awareness Session on Health & Safety

Flexible Packaging Association of Converters of Pakistan invited renowned companies from Flexible Packaging Industry of Faisalabad city networking meeting (North Chapter) program followed by lunch in local hotel at Faisalabad. Mr. Mujahid Ali Shaikh Chairman of the Association warmly welcomed and shared some highlights to the members regarding work in progress of association. In the meeting discussed lot of issues which are being faced by the converters industry of Faisalabad. FLEXPACK meeting hosted by DIC Pakistan Ltd during the meeting DIC Pakistan gave the presentation on "Health & Safety" for packaging printers, the purpose of presentation was to create awareness campaign to the companies' owners as to how we can actively prevent

from the serious hazards during manufacturing process and to implement safety measures. Chairman and Executive Committee Members of FLEXPACK association highly appreciated that effort from DIC Pakistan Ltd and also requested that the same events may be held in future in Karachi & Lahore cities. Further, it was also deliberated to engage an active workshop on Halal Food Certification for the Members and Industry. Mr Khalid Mehmood, Head of Marketing, DIC Pakistan Ltd shared his views about industry with FLEXPACK and intends to organize such programs in future for Karachi and Lahore cities.

Mr. Jawed Butt Senior Vice Chairman, Mr. Tarique Rehman, Mr. Humayun Tariq Executive Committee Members and Mr. Hafiz Asif Ikram former Executive Committee Member and 40 companies including association members participated in the event and shared their views.

## Flexible Packaging Association Converters of Pakistan Lahore City Meeting

Flexible Packaging Association of Converters of Pakistan invited renowned companies from Flexible Packaging Industry for North Chapter meeting program followed by lunch in local hotel at Lahore. Mr. Almas Haider, President, Lahore Chamber of Commerce & Industry special guest on request by Chairman to share his views on Tax and other economic related matters. Mr. Mujahid Ali Shaikh Chairman of the Association warmly welcomed and shared some highlights to the members regarding work in progress of association. In the meeting also discussed lot of issues which are being faced by the converters industry of Punjab.

Mr. Jawed Butt, Senior Vice Chairman, Mr. Shafiq-ur-Rehman, Vice Chairman North, Mr. Naeem Ahmed Khan Executive Committee Member and Mr. Saadat Eijaz, Patron in-Chief-II, Former Senior Vice Chairman and 25 association members companies participated in the event and shared their views.

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# Why is Flexographic Printing the Go-to Choice for Packaging

Packaging products used to be designed solely for efficiency and durability to protect contents during storage and shipping. But with more brand competition than ever, packaging materials have become an essential marketing tool of the trade.

Materials go far beyond paper, however, and many packaging substrates pose a challenge when it comes to printing. Flexographic, or flexo printing, solves those challenges and thus has become the de facto standard for packaging companies that want to print on a variety of paper substrates. When compared to other methods, flexographic printing offers more diversity, higher quality, and a lower cost to packaging companies. Flexo uses quick-drying, water-based inks, and can accommodate printing on every packaging substrate from Butcher paper, Kraft paper, and Chipboard, to Linerboard, Film, and even Cellophane.

Flexo inks can print on many types of absorbent and nonabsorbent materials. But it's not just the ink used in flexo printing that makes it a superior option for printing on packaging substrates. The printing process itself is well suited for packaging applications. Flexo employs flexible photopolymer printing plates wrapped around cylinders on a web press. Inked plates with slightly raised images rotate around the cylinder at extremely high speeds up to 2,000 feet per minute transferring images onto the packaging material. This means the sky's the limit when it comes to unique branding options for packaging companies. There is an obvious substantial benefit in being able to print a logo or other marketing message on every packaging material used in your operation.

**If you're looking to add branding to your packaging materials, there are some universal quality standards to look for when selecting a flexographic printing partner:**

**They offer one-stop shopping.** Ideally your packaging materials supplier should be able to handle the customized printing of your brand message and logo on rolls as well as sheets, all for an affordable price. Not only is having a separate supplier and printer a hassle, it will end up being more costly in the end.

**They use video inspection technology.** Advanced video inspection printing systems are crucial when printing on non-standard substrates such as those required by packaging operations. The best video inspection systems are those that feature high-resolution digital cameras to allow for detailed monitoring of each print job, in real time. Using video inspection reduces waste and ensures superior quality control in the flexo printing process so you can be confident your packaging materials will look great.

**They can print color on two sides.** Gone are the days of drab and boring packaging materials printed only in black and white and only on a single side of a package. In an increasingly competitive market, your packaging and your message must stand out above the rest. Look for a flexo printing partner that offers color printing with tight registration so that colors look sharp, and that can print on both the front and back of your packaging material.

**They can print across large surface areas.** In the packaging industry, rolls of substrate can be very large. That doesn't mean your printing options should be limited. Make sure to find a printing partner that can print across rolls that are wide enough to meet your specific needs.

**They offer a wide range of low-viscosity inks.** Low-viscosity inks offer quick drying at high speeds and high production volumes. This is an absolute must in a flexo printing partner for packaging applications.

# 3P PAKISTAN 2019 POST SHOW

***3P Pakistan organized by FAKT Exhibitions (Pvt.) Ltd. is the largest exhibition for plastic, printing and packaging industries in Pakistan. The 15th edition of 3P Pakistan was held at Expo Centre Lahore from 22nd – 24th March 2019.***

The exhibition was inaugurated by Mian Muhammad Aslam Iqbal, Minister for Industries, Commerce and Investment (Punjab) along with Mr. Mujahid Ali Shaikh, Chairman Flexible Packaging Association of Converters of Pakistan and other renowned stake holders of plastic, printing and packaging industries. On the occasion, the Minister said "The mega exhibition 3P Pakistan caters three vast industries of plastic, printing and packaging that play substantial role in maneuvering the economy and lids the cavity between local and international market."

Plastic industry in Pakistan is second largest in South Asia region, currently there are 6,500 plastic processing units in the country. Printing industry in Pakistan has enormous potential, over the years the industry has attained a height where it is serving and adequately meeting the entire paper and printing needs of the industry including the multinational companies. Packaging industry is attracting reasonable foreign investment as a result of rising exports and increasing local consumption of packaged foods which has pushed up the demand for packaged products.

3P Pakistan 2019 provided the exhibitors of all three interrelated industries an opportunity to directly offer their technological solutions to quality buyers and decision makers in an exceeding competitive global business environment. Around 18,000 trade visitors from all over Pakistan and neighboring countries showed-up at the exhibition to meet with more than 300 exhibitors.

This year 3P Pakistan was on a larger scale providing an ideal platform for companies to exhibit their products and services, the exhibition benchmarked with the largest ever participation from China with more than 150 Chinese companies followed by companies from Austria, Germany, Italy, Pakistan, Singapore, Sweden, Switzerland, Taiwan, Thailand, Turkey, UAE, UK, USA etc.

At the closing ceremony Mr. Saleem Khan Tanoli, CEO of FAKT Exhibitions (Pvt.) Ltd. with great enthusiasm stated, "My expectations were very high and so far we have achieved our expectations. We have exhibitors from all over the globe. Behind the success of 3P Pakistan is our untiring efforts, hard work and professionalism. We always bring top notch companies and provide them with the best platform, keeping our standards very high, thus our exhibitors have faith in us." He concluded by announcing that next year 3P Pakistan will be held at Karachi Expo Centre from 6th – 8th March 2020 and we look forward to welcoming our valued exhibitors and trade visitors.

## 3P Pakistan 2019 --- Pictorial Highlights

# 3P Pakistan 2019 Pictorial Highlights

## FLEXIBLE PACKAGING ASSOCIATION OF CONVERTERS OF PAKISTAN FRIST PAKISTANI PACKAGING INDUSTRY ASSOCIATION BECAME MEMBER OF INTERNATIONAL FORUM "WORLD PACKAGING ORGANIZATION" (WPO)





**“Flexible Packaging Association Of Converters Of Pakistan Participated In 3P Exhibition Held On 22nd - 24th March 2019 At Lahore. Mian Aslam Iqbal, Provisional Minster Commerce & Industry, Government Of Punjab, Inaugurated Alongwith Mr. Mujahid Ali Shaikh, Chairman FLEXPACK & Mr. Saleem Khan Tanoli, CEO FAKT Exhibition (Pvt) Ltd.”**

# ERA's First Gravure Symposium In Pakistan

For the first time European Rotogravure Association (ERA) organized a gravure symposium in Pakistan which took place on 25 April in Lahore, historical Moghul residence and currently capital of Lahore, Punjab state. The south Asian country has almost 220 million inhabitants of which 50 % are aged 25 and younger. It offers a growing market and great opportunities for gravure, which has a share of over 80% in the market for flexible packaging printing. All major Pakistan packaging printers attended the event to listen to presentations by the machinery and equipment suppliers Cerutti, Windmöller & Hölscher, Bobst, Daetwyler Swisstec, Enulec and GMG on the technological developments in gravure.

On the following day the European Rotogravure Association (ERA) delegation from Europe headed by ERA Secretary General James Siever was invited to a plant tour by the packaging printer Kasmy Pack. They operate a brand new 8-unit Cerutti press to print modern film packaging for the food, biscuits and dairy industry. It was followed by a visit to Kasmy Pack's customer Dalda Foods, major producer of oil and biscuits. They demonstrated a production line for potato chips, starting with the peeling and slicing of potatoes, and finishing with the packing of the chips in gravure printed film pouches ready to sell to the final consumer.


ERA and the Pakistan gravure printers were very satisfied with the outcome of the event which should be the beginning of a closer co-operation to support the further progress of gravure in Pakistan.

# 7th International Printing Packaging & Carton Mashhad Exhibition

Mr. Mujahid Ali Shaikh, Chairman Flexible Packaging Association of Converters of Pakistan attended the 7th International Printing Packaging & Carton Mashhad Exhibition which was held on 29th January -1st February 2019 at Mashhad Iran on Special Invitation by Barsaz Rooydad Pars Co. (Mashhad Iran). This invitation has been received association through Commercial Attache Consulate of The Islamic Republic of Iran, Karachi. During the exhibition Chairman FLEXPACK briefed on Iranian Official on Flexible Packaging industry Pakistan.


## Henkel And Ampacet Develop Recyclable Black Bottle

According to the news Henkel has developed, in collaboration with master batch producer Ampacet, a black plastics package that is fully recyclable and does not use carbon black color. This, say the companies, enables used bottles to be integrated back into the value chain. The solution is being rolled out with black bottles of toilet cleaning products under the Brief brand this month, following by further Henkel products during the course of the year. "Recognizing that black bottles are one of the central challenges when it comes to recyclability of used packaging, we want to be part of the solution. The new material will contribute to closing the loop of plastics packaging in a sustainable way," says Vineet Varman, head of international packaging development for Special Detergents at Henkel Laundry & Home Care. "Our joint development projects across all our three business units underline Henkel's commitment to sustainable packaging and to drive progress toward a circular value chain." Recycling plants use near infra-red (NIR) technology to identify the plastics materials to be recycled. The optical sensors utilize the reflection of light to detect the material and sort it accordingly. Black plastics packaging, however, due to presence of carbon black cannot be identified and sorted properly by these optical sensors. As a result, many brands and retailers have moved away from black plastics.

Cyclos-HTP, an institute specialized in the classification, assessment and certification of recyclability of packaging and goods, certified that Henkel's bottles with this carbon-free black color are fully detectable and sortable. As a next step, Henkel is driving the integration of recycled content in the packaging. Philippe Hugelé, Ampacet's strategic business manager for molding, said: "As part of our sustainability initiative, our REC-NIR-BLACK carbon-black free master batch provides a second life for black plastics packaging by allowing scanning by near-infrared technology for automated sorting at recovery facilities. We are pleased to be able to contribute to packaging recyclability for Henkel's iconic brands. "By 2025, Henkel wants all of its packaging to be recyclable, reusable or compostable. It also wants to increase the share of recycled plastics to 35 per cent for its consumer goods products in Europe by 2025.

## Cyprus Opens First Plastics Recycling Plant

Cypriot President Nicos Anastasiades inaugurated the country's first turn-key plastics recycling plant, equipped with machinery from German and Austrian suppliers Linder and Starlinger. According to PPC The plant, owned and operated by waste management company PPC Recycling, can process more than 10,000 tons per year of plastic waste into "high-quality recyclates". The facility can recycle post-consumer material of varying quality, from heavily contaminated post-consumer HDPE and LDPE waste to light and high-volume post-industrial stretch films, the company added. The plant features a processing system developed by Germany's Lindner to produce clean and high-quality flakes at a consistently high throughput for the downstream extruder. The line combines a Lindner shredder Micro-mat 2000 and coordinated washing and drying components, explained Andreas Poullaides, CEO of PCC Waste Management. These include a Floater pre-washer and a newly developed friction washer from the Twister series, as well as a "modern drying system" installed at the downstream stage.

According to the news A Linder water treatment facility will then clean the waste water and return it to the system in a closed-loop process. For processing

the shredded and washed LDPE and HDPE waste, Austrian recycling machinery supplier Starlinger has delivered a recoSTAR dynamic 145 C-VAC line to the plant. The “economically attractive” line, which was launched during the K 2013 trade show, produces approximately a ton of regranulate per hour. The machine combines a C-VAC degassing module and continuous melt filter to dispose of residual contamination, air pockets and moisture that the film typically shows after the washing process. With Cyprus having the second highest amount of waste per capita in the EU after Denmark, the new plant will be a step in the right direction towards EU recycling targets. “This project is extremely important to us. It is only with the help of the private sector that we are able to meet the EU's stringent circular economy targets and our own environmental objectives,” said Costas Kadis, minister of agriculture, rural development and the environment.

## W&H Retrofits Increase Production 20% At Tunisian Company

According to the news Tunisian film manufacturer Comptoir National du Plastique (CNP) has increased production of its blown film line by 20% with a retrofit from Windmöller & Hölscher (W&H). The company modernized its Varex 3-layer blown film line from 2007 with a new Maxicone C three-layer die head, with a 315/500 size, by W&H. In addition, the company retrofits the existing machine with two W&H automation modules, Profile Booster and Easy Change, the German packaging machinery supplier said 26 Feb. Profile Booster helps speed gauge control for faster job changes and start-ups, while Easy Change is viewed as an “auto pilot” for blown film lines.

With the ability to adjust all format-relevant machine parameters automatically, including the cooling air, Easy Change makes format changes faster and cuts the potential for mistakes. CNP has seen the time for job changes reduced to three minutes with the added automation. “Previously, we needed a multiple of this,” said Ameur Chamakhi, managing director production at CNP. Waste from the line has also been reduced by 80% to around 20kg. “With the modernized line we produce shrink film at 610kg per hour and laminating film in 25µ at 500kg per hour, which is an output increase of more than 20% ", explained Chamakhi.

The entire retrofitting took about a week, from initial dismantling of the old die head to the start of production with the new die head and software, W&H said. "The Varex is CNP's main blown film line. We planned the installation of the new die head in detail and carried it out without delay to keep downtime to a minimum," explained Hendrik Steen, the head of retrofitting at W&H. Founded in 1958, CNP is the oldest Tunisian plastics processing company. Today, the company has a production capacity of 10 kilotons per annum and supplies films to countries of the region. The company specializes in the production of agricultural and industrial packaging.

## Reifenh&Auml: User Acquires German Blown Film Specialist Plamex

German plastic extrusion company Reifenhäuser Group has acquired blown film machinery supplier Plamex Maschinenbau GmbH, a move designed in particular to strengthen its offerings to the medical packaging industry. Renamed Reifenhäuser Blown Film Plamex GmbH & Co. KG, the company is now led by Maximilian Herchenbach, formerly managing director of Plamex, and Manfred Kurscheid of Reifenhäuser Polyrema. Based in Kelberg, Germany, Plamex is a supplier of blown film lines and extrusion components, with core competencies in water-cooled and biaxially oriented films for the medical and food packaging industry. Post-acquisition, it will work closely with Reifenhäuser Group's blown film machinery specialist Polymer, supplying tailor-made solutions for the packaging industry.

As a result of the purchase, Reifenhäuser will gain access to a new technology for flexible film production, thus expanding its blown film capabilities. "The extremely efficient water cooling keeps the polymer in amorphous state and produces a particularly glossy and transparent film with remarkable puncture resistance and very good barrier properties," explained Bernd Reifenhäuser, CEO of the Reifenhäuser Group.

"Water cooled blown film extrusion lines for medical applications, such as infusion bags, and biaxially oriented multi-layer films, have not been in the scope of the Reifenhäuser group yet," said Manfred Kurscheid, managing director of Reifenhäuser Polyrema. With the acquisition, the group can now offer water-quench, double and multi-bubble technologies to new customers groups, he added. "It was particularly important to us that we can continue the Plamex success story with a strong partner at our side. Reifenhäuser Polyrema is the perfect match for Plamex - both in terms of corporate structure and business focus," said Maximilian Herchenbach, commenting on the acquisition.

## Flint Group Announces Launch of Nyloflex® FTH Digital Plate For Flexible Packaging Printing

The newest member of Flint Group's family of flat top dot plates, nyloflex® FTH Digital Plate, provides greater versatility for meeting the highest standards in flexible packaging printing. A solvent-processed plate with a smooth surface designed for use with surface screening, the new flexo plate provides high solid ink density and superb highlight performance for ultimate overall print results. The inherent flat top dot surface of the nyloflex® FTH Digital Plate is achieved without additional processing steps or consumable items. The exposure with either standard tube or LED UV-A light results in a flat top dot surface on the plate, which can be texturized with the latest surface screening technology to create a customized surface pattern to meet the specific requirements of the printer. The resultant micro-textured surface of the plate provides excellent ink laydown and improved solid ink density on flexible foil substrates. The nyloflex® FTH Digital plate prints with extremely sharp highlight detail due to the very hard duro-meter of the plate. Its optimized formulation imparts special characteristics, including anti ink fill (AIF) properties, which allow for cleaner running plates with increased press uptime and excellent solvent resistance for longer lasting plates and consistent


print. Extended print runs, fewer stops and the ability to reuse plates, decrease waste and offer additional cost-saving advantages to printers. Plates are commercially available in .045" (1.14 mm) and .067" (1.70 mm) standard thicknesses and in 35 x 47 in. (900 x 1200 mm), 42 x 60 in. (1067 x 1524 mm), and 50 x 80 in. (1270 x 2032 mm) sizes.

# Multilayer Films

***(Flexible Packaging Materials)***

The majority of today's packaging films are multilayer structures ranging from 3 to 12 layers. They are also referred to as co-extruded films because they are made by a multilayer co-extrusion process. The combination of several layers of different materials improves the mechanical and physical properties of the film including puncture, tear and heat resistance as well as moisture and oxygen barrier properties. Multilayer films find many applications in the high-volume packaging industry including food and medical packaging. The combination of several polymer layers significantly increases shelf-life by controlling the transmission rate of oxygen, carbon dioxide and moisture as well as the concentration of oxygen inside the package which is Key in preserving the freshness of fresh produce for longer period of time.

The most common polymers utilized in the flexible packaging industry are polyethylene (PE), polypropylene (PP), ethylene-vinyl alcohol (EVOH), polyamide (Nylon, PA), ionomers (EAA, EMAA), and ethylene vinyl acetate (EVA). Among these, polyethylene is the largest and cheapest packaging film. It is easy to process and is often combined with gas/aroma barriers such as PA and EVOH. The most important grade is linear low density polyethylene (LLDPE). It is a high-clarity film widely used for food packaging and blow molding of bottles. It is sometimes combined with high density polyethylene (HDPE) which is stiffer, harder, and has higher tensile and bursting strength but lower impact and tear strength than LLDPE. The combination of LLDPE and HDPE provides superior properties, and allows for thinner films. For this reason, the majority of today's packaging films include more than one olefin layer. For example, cereal bags consist of several layers of HDPE, LDPE and LLDPE combined with an aroma barrier, whereas films that require higher mechanical strength and/or improved heat resistance (microwavable and hot-filled food packaging) often include a layer of polypropylene (PP). Besides superior heat resistance, PP provides the basic strength of the packaging and contributes to the moisture barrier.

Some important limitations of polyethylene films are poor gas barrier properties, low temperature resistance, and difficult to bond. To improve these properties, olefins are often combined with polar polymers such as PA, EVOH or Saran (PVDC). However, co-extrusion of these materials requires tie resins1 because olefins do not adhere well to these polymers. A typical packaging film for fresh produce consists of four to seven layers. Two examples are LLDPE-Tie-EVOH-Tie-LLDPE and LLDPE-HDPE-Tie-EVOH-Tie-HDPE-LLDPE2 among many others. Most of these multilayer films consist of at least 50 percent olefins.

For more demanding packaging applications, plastic films are either laminated to an aluminum foil or combined with a metalized film. The aluminum layer greatly reduces the water and oxygen transmission rate and also provides a metallic and glossy appearance. Aluminum is the most effective vapor and aroma barrier. However, in recent years, the amount of aluminum foil used in packaging has decreased in order to reduce recycling problems. Metalized films are also a popular choice for confectionaries.

1) Tie layers are functional polymers coextruded between two chemically different polymers to improve the adhesive strength and to prevent delamination.

2) The combination of HDPE with (butane or octane) LLDPE offers a better balance of stiffness and toughness and allows for thinner films, and thus, reduces material cost.

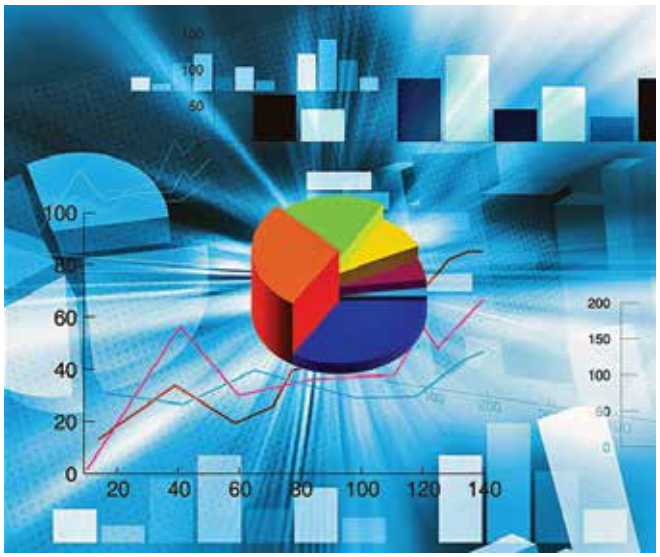
**COMMON LAMINATED FILM STRUCTURES**

| Structure Design | Typical Composition | Application |
|---|---|---|
| **LLDPE/HMW-HDPE/LLDPE**<br>**HDPE/LLDPE/HDPE/EVA** | 15/70/15<br>30/30/30/10 | Grocery Bags<br>Cereal Liners |
| **Paper-LDPE-Al-LDPE**<br>**PET/Tie/LDPE/Al/LDPE** | Laminated Packaging | Liquid/Paste Packaging<br>(Juice, Milk Cartons) |
| **LLDPE-Tie-EVOH-Tie-LLDPE**<br>**LLDPE-Tie-PA-Tie-LLDPE** | 40/5/10/5/40 | Fresh Meat<br>Processed Meat |
| **LLDPE-Tie-PA-EVOH-PA-Tie-LLDPE**<br>**LLDPE-HDPE-Tie-EVOH-Tie-HDPE-LLDPE** | (30/5/10/10/10/5/30)<br>(20/20/5/10/5/20/20) | Fresh Meat<br>Processed Meat |

# Growth Expected in Global Packaging Coatings Market

According to the Global Industry Analysis, Size, Share, Growth, Trends, and Forecast 2016 to 2024 packaging plays a significant role in every manufacturing process. Manufacturers and packers are paying noteworthy attention to packaging for ensuring product safety, ease in supply chain, promoting sales, and increasing consumer convenience. Hence, packaging coatings plays a major role in improving the packaging process with a view to attain the above mentioned attributes. Packaging coating not only helps enhance the packaging process by providing additional protection, corrosion resistance, and numerous chemical attributes, but also helps in improving the overall aesthetic characteristics of the packaging form. The growing application areas of packaging are estimated to benefit the global packaging coatings market. Changing lifestyle and food habits are estimated to be the major reasons for the rise of the food and beverages sector, which is a major application segment for the global packaging coating market. Rise in consumption and manufacturing of PET bottles is also estimated to be a major growth contributor for the global packaging coating market.

The global packaging coatings market is primarily driven by the growth witnessed in the packaging industry. Global, the packaging industry is estimated to expand at CAGR of 4% over the forecast period. The growing scope of packaging in various products, especially in consumer goods and food and beverages industry, is estimated to further drive growth of the globally packaging coatings market in the coming years. The increasing need for maintaining original quality and taste and keeping a check on contamination are pushing manufacturers to use packaging coatings, especially in the food and beverages market. On the other hand, stringent government laws and regulations, especially in terms of food and beverages packaging is expected to restrain growth of the global packaging coatings market in the coming years. Besides, increasing concern and awareness regarding the side effects of chemicals used in coatings of cans and bottles among both, manufacturers and end users, is anticipated to further restrain growth of the global packaging coatings market in the coming years.




Growth opportunity for players operating in the global packaging coatings market lies in the usage of environmentally safe and organic materials, which could be reuse and recycled, in the production of packaging products. The global packaging coatings market is segmented on the basis of packaging type, resin type, end use sector, and regions. On the basis of packaging type, the global packaging coatings market is segmented into rigid packaging coatings and flexible packaging coatings. On the basis of resin type, the global packaging coatings market is segmented into Epoxy, Acrylic, Phenolic, Amino, Vinyl, Polyurethane, Polyester, and others. On the basis of substrate type, the global packaging coatings market is segmented into glass, metal (cans, containers, and sheets), plastic (PET bottles, jars, and others), and paper. On the basis of end use sector, the global packaging coatings market is segmented into food and beverage sector, cosmetics and pharmaceuticals, industrial goods, and others.

On the basis of geography, the global packaging coatings market is segmented into North America, Europe, Asia Pacific (APAC), the Middle East and Africa (MEA), and Latin America. North America is anticipated to be the largest market for global packaging coatings due to rise in food packaging practices, especially in the can segment in the region. Asia is anticipated to contribute significantly towards growth of the global packaging coatings market in the coming years, due to the increasing demand for packaging coatings in the packaged food and consumer goods segments in the region. Latin America is estimated to be the leading consumer of packaging coatings after Asia Pacific. The Latin America market is expected to be followed by the Europe market. The Middle East and Africa market is estimated to exhibit sluggish growth in the global packaging coatings market.

# Jilani Industrial Corp.(Pvt. ) Ltd.

## Company Profile

Jilani Industrial Corporation (Pvt.) Ltd. was set up more than 30 years ago in Karachi as a plastic converting enterprise. With humble beginnings, the company continued to grow and expand and expand based on our principles of unmatched quality, superior customer service, innovative products and dedication to our employees. In due time the company expanded to set up another production facility in Northern region of Pakistan to provide equally good quality with shorter lead times.

In view of company's vision to diversify, rotogravure printing facility was also added to existing capability of flexographic printing services in 2004. Today we provide all sort of plain, printed and laminated reels, films, sleeves, pouches and bags. Moreover, we deal in all sorts of plastic materials including PET,PP,BOPP,PVC shrink, PETG shrink, PE, Aluminum foil etc, depending on the customers' needs and requirements. With three factories today in Karachi and Lahore, we claim to be one of the leading providers of flexible packaging material in Pakistan.

We have opened a world of possibilities with production capability of up to 8 color rotogravure printing, combined with both dry and solventless lamination and versatile bag making machines. Combined with our in-house prepress/design department, and our ISO certifications, we ensure superior products and services to our customers. We take pride in offering our customers with innovative and specialized packaging options. We introduced and popularized PVC shrink labels and sleeves in Pakistan. Today, our name is associated with high quality labels and unmatched service all over Pakistan. We also boast of providing diverse variety in finished bags including 3 side seal bags, zipper bags, stand up pouches, uneven shaped stand up pouches, centre seal bags and 4 side seal bags. Furthermore, we also provide PE shrink wrap films for group packaging. Our superior quality film at competitive prices ensures that you get high yields thus providing better value for money.

We have developed a niche for ourselves by catering to short (1000kg) to very short (500kg) orders also. Our priority remains customer satisfaction, and we ensure that our team goes to all lengths to maintain that. Based on this approach, we boast of a prestigious list of both domestic and multinational clients. These span across many different industries, including beverages (Coca Cola and Pepsi Cola), Textile (Afroze Textiles and Feroze Textiles), Confectionary (Kings Foods and S.S. Foods), Food (Matco Rice and Nauras), Chemical (Clariant and Pakistan Lubricants), Cosmetics (Kohinoor Soap and Mothercare), Pesticides (FMC and UDPL), Paint (Berger and Diamond Paints), Pharmaceutical (Searle and Woodwards) etc.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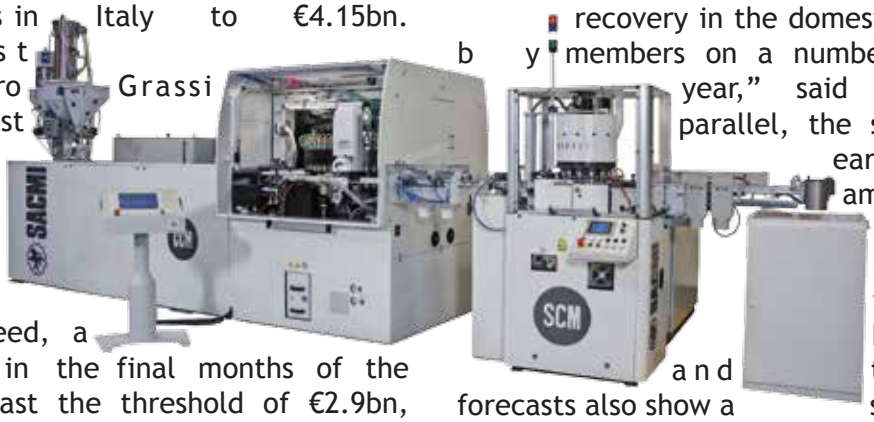
# Italian Machinery Exports Beat Records

According to the news exports of plastics and rubber processing machinery from Italy hit an all-time high in 2015, according to the annual figures released by industry body Assocomaplast. There was a 3.8% rise in the total value of production of machinery, equipment and molds in Italy to €4.15bn. Assocomaplast president Alessandro Grassi said: "The most heartening item for Italian companies is exports, which once again have proven to be the driving force for the sector. Indeed, a significant upsurge in the final months of the year took exports past the threshold of €2.9bn, setting an all-time record, and going well beyond the €2.75bn in 2007." The €2.9bn of exports in 2015 was 8.4% higher than €2.685bn in 2014. The bulk of Italy's polymer machinery exports were delivered to Europe – 60.2% of all Italian exports in 2015, unchanged from 2014. Within that share, exports to the EU were 49.7% in 2015, up from 48.7% in 2014.




Assocomaplast said there was a year-on-year increase of 11% in exports to EU countries, highlighting Poland rising to third place among destination countries and accounting for 5% of Italian exports. This contrasted with the "persistent contraction in the Russian market, still reeling from the well-known economic and political turmoil", it said. Germany remains Italy's main trading partner, increasing its imports of Italian machinery by 14% in 2015. North America was the highlight among other world regions, accounting for 13.7% of Italian machinery exports in 2015 (up from 10.8% in 2014). Sales to US converters were boosted by 50% in 2015 to more than €260m, and growth in the order of 20 percentage points was also recorded in Mexico and Canada.

Other regional export markets contracted: Central and South America accounted for a 6.0% share in 2015 (7.3% in 2014); Africa 4.5% in 2015 (5.1% in 2014); and Asia and Oceania 15.6% in 2015 (16.6% in 2014). In Asia, Assocomaplast noted the decline in the Chinese market affecting both Italian and German polymer machinery groups. India, however, generated a 16% increase in export sales for Italian companies in 2015. While export markets have been the mainstay for Italian machinery producers in recent years, it looks like the domestic market is now finally making a recovery. The value of machinery sales in Italy increased by 2.3% from €1.955bn in 2014 to €2.0bn in 2015. "An 18% increase in imports [to €750m in 2015] also supports the sensation of recovery in the domestic market expressed by members on a number of occasions last year," said Assocomaplast. "In parallel, the survey conducted in early March [2016] among a significant sample of Italian converters highlights improvement over February of last year and the 3-4-month forecasts also show a strong upward trend in orders and production."

# Sun Chemical Joins CEFLEX To Support Development Of A Circular Economy For Flexible Packaging

Sun Chemical has joined CEFLEX, the collaborative European consortium of companies and associations representing the entire flexible packaging value chain. This important initiative will facilitate increasing amounts of consumer flexible packaging to be recycled and Sun Chemical is looking forward to actively contributing and leveraging its global R&D resources in supporting the project to shape the flexible packaging market for the future. "Developing more sustainable flexible packaging solutions designed for a circular economy has become a global issue. A collaborative initiative encompassing the whole industry, as CEFLEX does, therefore has the best chance of making a real impact on resolving these issues and we are keen to play our part in this important joint venture," comments Felipe Mellado, Chief Marketing Officer, Sun Chemical. "As a global

supplier of both printing inks and lamination adhesives, Sun Chemical is uniquely placed to contribute to the development of next-generation structures and products that will drive the circular economy for flexible packaging and assist in our customers meeting their sustainability goals."

Representing the full spectrum of the value chain, from materials producers to converters and printers, to brand owners, retailers and specialised recycling companies, the membership of CEFLEX has grown to over 100 companies and organisations since the consortium was established. Sun Chemical is fully committed to supporting the CEFLEX vision of establishing a comprehensive sustainability and circular economy roadmap for flexible packaging by 2020. The roadmap will include widely recognised design guidelines and a robust approach to measure, demonstrate and communicate the significant value flexible packaging adds to the circular economy. By 2025 CEFLEX will support the development of a collection, sorting and reprocessing infrastructure across Europe for flexible packaging based on end-of-life technologies and processes that deliver the best economic and environmental outcome for a circular economy via a robust business case for investment and successful pilot projects to proof the concept.

## Durst And Koenig & Bauer Sign Joint Venture Agreement for Digital Packaging Printing Systems

Durst, manufacturer of advanced digital printing and production technologies, and Koenig & Bauer, the world's second-largest printing press manufacturer, signed a 50/50 joint venture agreement in Munich on Wednesday, April 10. The signing of the agreement paves the way for the joint development and marketing of single-pass digital printing systems for the folding carton and corrugated fiberboard industry. The antitrust clearance that is still required from the relevant antitrust authorities before "Koenig & Bauer Durst GmbH" can be officially established is expected to be granted in the next few weeks. Business operations should then commence by the end of May and a Managing Director will be appointed. Koenig & Bauer Durst GmbH will have its registered office in Würzburg and cooperate closely with both parent companies' global network. Initially, the joint venture portfolio will comprise the Koenig & Bauer CorruJET 170 and the Durst SPC 130 – including all associated services and the ink business, as well as the development of the VariJET 106. "It was a short path from letter of intent to official signature because the negotiations had already been conducted in a spirit of genuine cooperation," says Christoph Gamper, CEO of the Durst Group. "We want to work efficiently and purposefully towards a common goal – tapping the huge potential that digital production lines offer for the packaging industry."


"Koenig & Bauer Durst will combine different key technology areas and market expertise to perfect effect," says Claus Bolza-Schünemann, CEO of Koenig & Bauer AG. "I am convinced that the joint venture will benefit from the spirit embodied by both companies and that something really special is emerging here. The packaging industry is looking for new, more efficient production opportunities and Koenig & Bauer Durst will supply the necessary digital solution.

## Cosmo Films Launches CPP High Barrier Films

According to the press news New Delhi – Cosmo Films, a global leader in speciality films for flexible packaging, lamination and labeling applications as well as synthetic paper has recently introduced a cast polypropylene (CPP) film for packaging applications requiring high moisture & oxygen barrier and high hot tack properties. The newly launched heat sealable CPP films also offer high hot tack (>600gf/inch over a range of 100-140 degree celsius)


and low seal initiation temperature; enabling packaging machines to run at higher speeds. As far as barrier is concerned, the films offer good moisture, oxygen, light and aroma barrier properties. The films offer an OTR and MVTR of <30cc/m2/day and <0.3g/m2/day respectively. The high barrier metallized films also offer high metal bond. The films have been tested well for biscuits, cookies & crackers, snack food applications, chocolates, and ice-creams. Available in a range of 20 to 30 microns, films are well suited for both adhesive as well as extrusion lamination. Speaking on the development, Mr. Pankaj Poddar, CEO Cosmo Films said, We see more & more CPP being used globally as well as India as a choice material for packaging applications in food and agriculture owing to its high transparency vis-a vis polyethylene and excellent sealing performance. Cosmo Films with years of experience in the polypropylene space has worked hard to come up with an extensive range of CPP films that it offers today both from functionality as well as mono-materialization standpoint."

## Dow And Biologiq Partner On Evaluation Of Plant-Based Polymers And Resins

Dow and BioLogiQ are collaborating to evaluate potential synergies between BioLogiQ's novel NuPlastiQ® BioPolymer, a thermoplastic plant-based resin, and Dow's industry-leading polyethylene resin portfolio, in an effort to explore enhanced sustainable plastic options. Dow and BioLogiQ will work together to test and consider potential applications that incorporate bio-based resins with polyethylene, in the hopes of enabling more plant-based plastic products. BioLogiQ, a seven-year-old startup based in Idaho Falls, Idaho that's committed to creating plastics from renewable resources, will utilize Dow's industry-leading research and development, as well as the company's extensive plastic resin sales and distribution network, to determine if they can successfully leverage plant-based plastics. "As a science-driven company, Dow is excited by the technical and environmental advantages that could be achieved by combining NuPlastiQ with Dow's industry-leading polyethylene," stated Tim Boven, recycling commercial director at Dow. "We are looking forward to learning more about NuPlastiQ, and hope the collaboration will help us determine how these product combinations can benefit the market needs for the future."

Dow's commitment and mission to deliver breakthrough sustainable chemistry innovations that advance the well-being of humanity directly aligns with BioLogiQ's goal of discovering more sustainable solutions to plastics. "Our mission at BioLogiQ is to provide a way to create plastic products made from renewable resources," explained Brad LaPray, founder and president of BioLogiQ. "This evaluation will help us determine if there is an opportunity for Dow and BioLogiQ to work together in the future to offer new applications to our customers." The evaluation will help determine if NuPlastiQ is a potential fit with Dow's business from performance, bio-based and commercial viability perspectives. During the next year, Dow and BioLogiQ will perform evaluations at Dow's Pack Studios Development Center in Freeport, Texas and engage brands, research institutes and associations to evaluate the range of benefits from a combined offering.

## Launch Of Pioneer

PIONEER is a European project under the H2020 programme with the ambition to train a new generation of experts in the multidisciplinary field of plasma and catalysis research in the context of CO2 conversion. 15 PhD students (called ESR) will

collaborate within a consortium of 15 renowned European research institutions and six industrial partners. The aim is to develop new systems in the fields of plasma chemistry and catalysis for efficient conversion of the CO2 molecule to enable applications such as energy storage in synthetic fuels.

This challenge makes it necessary to understand the role of surfaces in contact with molecular plasmas. This knowledge will enable the development of new materials with the necessary properties to take advantage of the strong electric fields and the special chemistry of the reactive species that characterize cold, non-thermal plasma. AFS supports the project as an industrial partner.

## Procter & Gamble Collaborates With Terracycle To Create Recyclable Shampoo Bottles

Procter & Gamble hair-care brand, Herbal Essences, will create recyclable shampoo and conditioner bottles, in collaboration with an innovative waste management company, TerraCycle, in order to celebrate World Water Day. The recyclable shampoo and conditioner bottles will be made of 25% beach plastic. The partnership is another step in TerraCycle's mission to eliminate the idea of waste and bring awareness to the plastic pollution in our waterways. Tom Szaky, TerraCycle CEO, says, "Plastic floating in our oceans and rivers has been a recent topic for discussion and unless people work to find solutions, it stays just that—a discussion." "By incorporating beach plastic into their bottles, Herbal Essences is showing that they are committed to doing something and leading by example. I look forward to our continued work together to raise awareness and make a bigger difference," he adds.

By working together, both companies can drive more awareness and encourage more consumers to make better choices when the products they use reach their end of use cycle. Three of the Herbal Essences bio: renew Collections, White Grapefruit & Mosa Mint, Argan Oil, and Coconut Milk, will be available in these innovative, limited-edition Beach Plastic bottles from March to June 2019. Ilaria Resta, North America General Manager of P&G Hair Care says, "Businesses can play an important role in driving and inspiring change in the world." "My team and I are very passionate about driving responsible consumption. Actions like incorporating ocean plastic into our bottles is just one way we are bringing innovative solutions that have a reduced impact on the environment. "This is a step towards our long-term vision of using 100% renewable and recycled materials in our products and packaging," she concluded.

## Prime Blade Visited K-Group Pakistan

PrimeBlade Sweden is so grateful to have Mr Kafil and his team in growing our doctor blade business and market share in the Pakistan market. Great plans are now in placed in giving total technical and commercial support and assistance to Pakistan Printing Industry, in general, thru our partner, K Group. PrimeBlade Sweden AB is a global manufacturer and supplier of Doctor Blades for flexo, gravure, offset printers, and coating applications.

## Global Flexo Market Realizes Cost And Safety Benefits Of New Heaford Multi-Purpose Sleeve Productivity Station

Accrding to the news JM Heaford, industry-leading supplier of mounting and proofing solutions for the tag and label, flexible packaging, corrugated and gravure markets, says its recently introduced multi-tasking Sleeve Productivity Station (SPS) has received a response beyond expectation from world markets. Following a soft launch, the solution is already installed on four continents and reflects the global drive towards improving efficiencies among companies of every size. Installed in such geographically diverse markets as Canada, Mexico and Korea, the majority of SPS installations to date complement Heaford AutoMounter technology, where customers are eager to exploit time already gained. While the AutoMounter is performing its automated plate mounting, the dual-purpose systems allows operators to multi-task and remove plates and tape on completed jobs and prepare sleeves for the next plate change.

Key to the success of the SPS is a controlled, measured and user-friendly mechanism, which requires minimal operator training. In demounting, plates and tape are "driven off" using a consistent, even force protecting against plate damage that can commonly occur in the demounting process. The returns are boosted further by

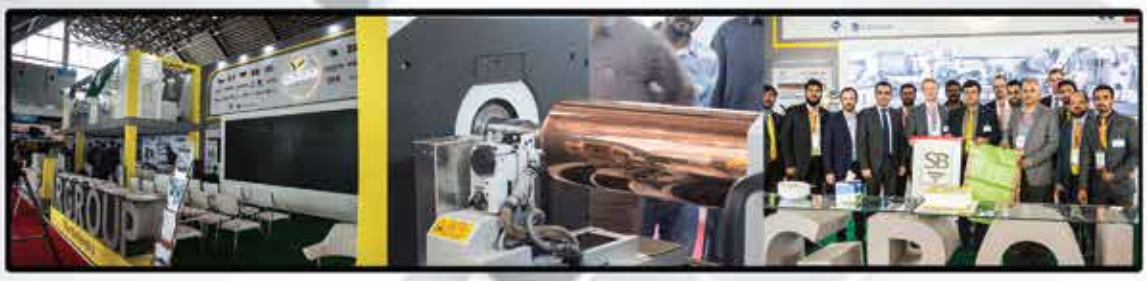
improvements in employee wellbeing through eliminating the entirely manual process of plate/tape demounting and, with it, the risk of RSI. The innovative design of the Heaford SPS offers a further unique capability. Due to its precision build featuring a sleeve mandrel that is customized to press specification the system can be used for accurate tape application. Using pressured laydown on the driven mandrel, tape is adhered onto the sleeves under a consistent pressure without air pockets or creases. "The rapid take-up of our Sleeve Productivity Station highlights the fact that customers are increasingly realizing the massive gains to be made from production streamlining and are looking for more ways to maximize efficiencies," says Sally-Anne Heaford, Managing Director of JM Heaford Limited. "Most of the new installations to date have been made alongside our AutoMounters, the system offers opportunities to improve ease-of-use, accuracy and repeatability across the board. Functions such as taping and stripping are sometimes overlooked when a company is on an efficiency drive, but the productivity gains from deskilling the process and multitasking are considerable. When you factor in the financial savings from eliminated plate damage, the ROI of less than a year makes the purchasing decision unquestionable."

## Marbach Training Center's Successful Start In 2019

The Heilbronn-based die manufacturer Marbach has made a successful start to the new year with its Marbach Academy. In the first quarter of 2019, there were training courses on the subjects of paperboard and cigarette packaging as well as several individual training courses for customers. Marketing Manager Tina Dost: "Our training program has been well received. We are pleased about the widespread interest. Word of the highly practical relevance of our training courses is also spreading abroad. We have already had participants from numerous countries. In addition to Germany, these have included countries such as Sweden, Finland, Pakistan and Lebanon. We are looking forward to welcoming many more participants to our training courses this year." The Marbach Training Center was opened one year ago. Since then, almost 300 people have been trained in topics related to die-cutting.

# IR Group of companies participated with full strength, presenting innovations, demonstrating live equipment at 3P Exhibition 2019

Cloud PACKAGING



IR Group bringing newest innovations with live demonstrationto show the industry to adopt technology and lead Pakistan for increasing exports in the field of Plastics, Printing, Converting and Packaging products.

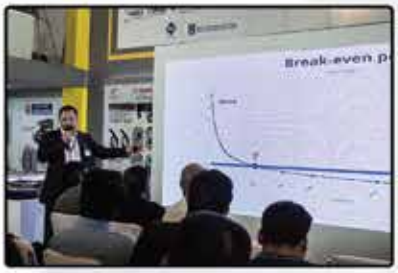
## Demonstrations on different state-of-the-art technologies in printing & packaging industry

*Rotogravure Technologies in cylinder making by Mr. Christian Karg

*Direct Laser Elastomer Engraving by Mr. Ulrich Busche


*Innovations in Plate mounting by Mr. Massimo Caliari

*Application of Doctor Blade and measuring tools Mr. Lars Lieb

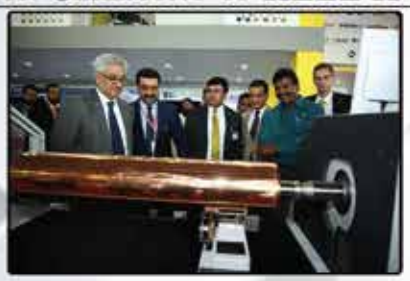


*Innovations in Flexo Pinting by Mr. Pavel Fischer

*Techniques of Bag sealing, filling & palletizing by Mr. Markus Wolfmajer

## Inauguration Ceremony of HELL K-5 Smart XL


Inauguration of HELL K-5 Smart XL Engraver by the Honorable Minster of Industries and Chairman of Flexible Packaging Association of Converters of Pakistan Mr. Mujahid Ali Sheikh.



President LCCI Mr. Almas Hyder Naqi, visited the IR Group booth and praised thier efforts for the outstanding booth design & educational presentations during the 3-P exhibition.

For more information visit/ www.irgroup.com.pk / irgroup of companies

# Four Key Trends That Will Shape The Future Of Packaging To 2028

According to research by Smithers Pira in The Future of Packaging: Long-Term Forecasts to 2028, between 2018 and 2028 the global packaging market is set to expand by almost 3% per annum, reaching over $1.2 trillion. The global packaging market has increased by 6.8% from 2013 to 2018. Most of this growth has come from less developed markets, as more consumers move to urban locations and subsequently adopting westernized lifestyles. This has boosted a demand for packaged goods, which worldwide has been accelerated by the e-commerce industry. Many drivers are having a significant influence on the global packaging industry. The four key trends that will play out across the next decade:

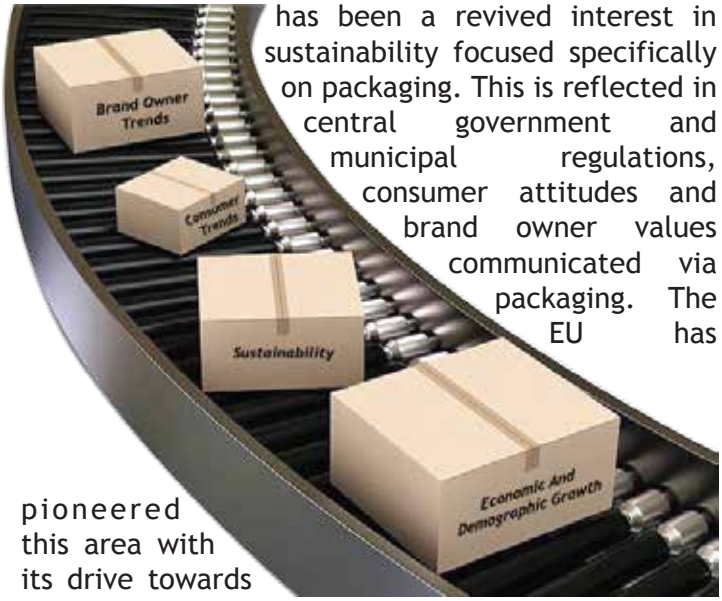
## *Economic And Demographic Growth*

General expansion in the global economy is expected to continue over the next decade, boosted by growth in emerging consumer markets. There is the prospect for short-term disruptions from the impact of Brexit, and any heightening of tariffs wars between the US and China. In general however, incomes are expected to rise, increasing consumer income for spending on packaged goods.

The global population will expand and especially in key emerging markets, like China and India, the rate of urbanization will continue to grow. This translates into increase consumer incomes for spending on consumer goods, as well as exposure to modern retail channels and the aspiration among a strengthening middle class to engage with global brands and shopping habits. Rising life expectancy will lead to an aging of the population especially in key developed markets, like Japan will increase demand for healthcare and pharmaceutical products. Simultaneously there is a need for easy opening solutions and packaging adapted to the needs of elders. Another key phenomenon of 21st century living has been the rise in number of single-person households; this is pushing demand for goods packaged in smaller portion sizes; as well as more convenience like reasealability or microwavable packaging.

## *Sustainability*

Concern over the environmental impact of products is an established phenomena, but since 2017 there has been a revived interest in sustainability focused specifically on packaging. This is reflected in central government and municipal regulations, consumer attitudes and brand owner values communicated via packaging. The EU has pioneered this area with its drive towards circular economy principles. There is a particular focus on plastic waste, and as a high-volume, single-use item plastic packaging has come under particular scrutiny. A number of strategies are advancing to address this, including substituting to alternative materials, investing in the development of bio-based plastics, designing packs to make them easier to process in recycling, and improving recycling and processing of plastic waste.




As sustainability has become a key motivator for consumers, brands are increasingly keen for packaging materials and designs that demonstrably show their commitment to the environment. With up to 40% of food produced worldwide not eaten minimizing food waste is another key goal for policy makers. It is an area where modern packaging technology can have a major impact. For example, modern flexible formats like high-barrier pouches and retort cooking add extra shelf-life to foods, and can be especially beneficial in less developed markets where a refrigerated retail infrastructure is missing. Much R&D is going into improving packaging barrier technology, including the integration of Nano-engineered materials. Minimizing food losses also supports the wider use of intelligent packaging to cut waste within distribution chains and reassure consumers and retailers on the safety of packaged foods.

## *Consumer Trends*

The global market for online retailing continues to grow rapidly, driven by penetration of the Internet and smartphones. Consumers are increasingly buying more goods online. This will continue to increase

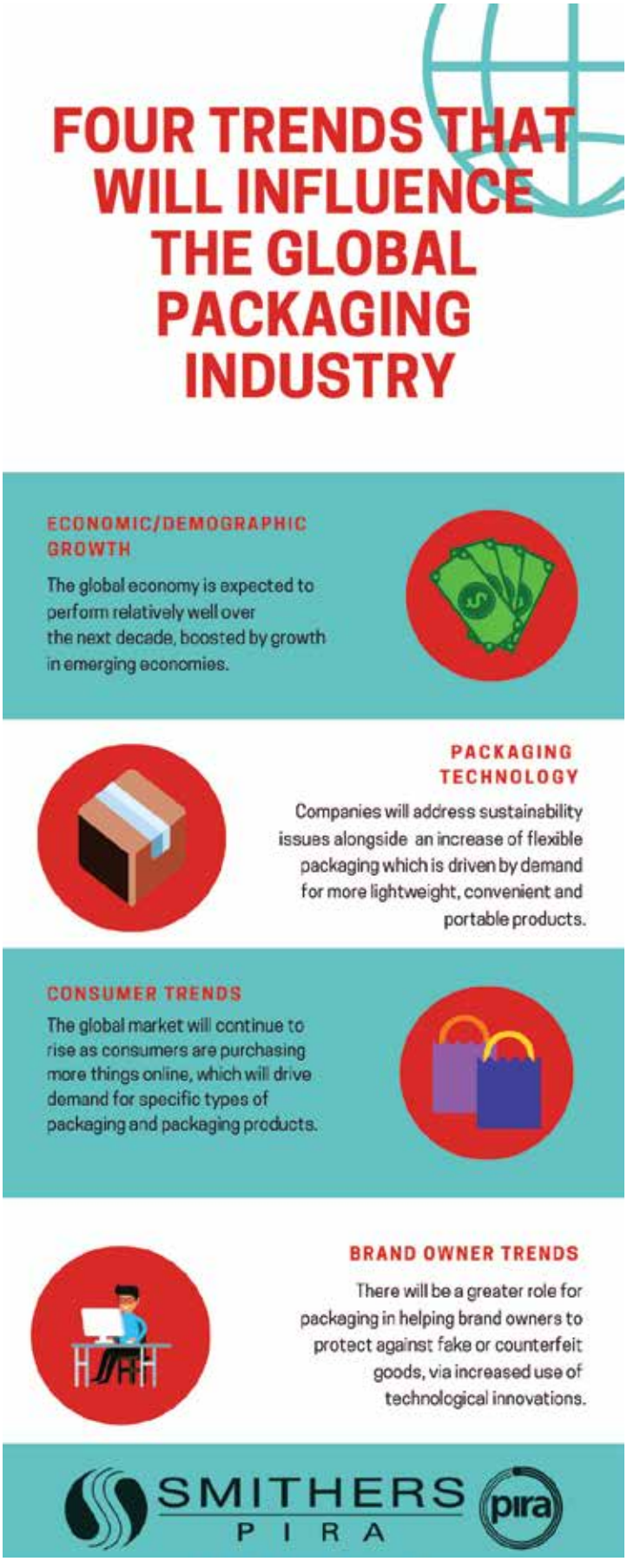
through to 2028 and will see an elevated demand for packaging solutions especially corrugated board formats that can safely ship goods through the more complex distribution channels. More people are consuming products such as food, beverages, pharmaceuticals on-the-go. This is increasing demand for packaging solutions that are convenient and portable, with the flexible plastics sector one main beneficiary.

In line with the move to single-person living, more consumers especially younger age groups – are inclined to go shopping for groceries more frequency, in smaller quantities. This has driven growth within the convenience store retailing, as well as boosting demand for more convenient, smaller size formats. Consumers are taking a greater interest in their own health matters, leading to healthier lifestyles. Therefore this is boosting demand for packaged goods, such as healthy foods and beverages (e.g. gluten-free, organic/natural, portion controlled) alongside non-prescription medicines and nutritional supplements.

## *Brand Owner Trends*

The internationalization of many brands within the fast-moving consumer goods industry continues to rise, as companies seek out new high-growth sectors and markets. Increased exposure westernized lifestyles will accelerate this process in key growth economies through to 2028. E-commerce and the globalization of international trade is also stimulating a demand among brand owners for components, like RFID labels and smart tags, to protect against counterfeit goods, and enable better monitoring of their distribution.

Industry consolidation in merger and acquisition activity in end-use sectors such as food, beverages, cosmetics, is also forecast to continue. As more brands come under the control of one owner, their packaging strategies are likely to become consolidated. The 21st Century consumer is fewer brands loyal. This is simulating an interest in customized or versioned packaging and packaging solutions that can create an impact with them. Digital (inkjet and toner) printing is providing a key means to do this, with higher throughput printers dedicated for packaging substrates now seeing their first installations. This further aligns with the desire for integrated marketing, with packaging providing a gateway to link into social media.



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