



Thrillers in Manila

The key challenges and opportunities in the plastics packaging market were highlighted at a recent trade show in the Philippines. **Jens Kastner** reports from the country's capital

Plastics packaging is an innovative sector with a complex supply chain, so exhibitions play an important role in promoting cohesion and dynamism in host countries and their surrounding regions.

PackPrintPlas Philippines is one such example. This international packaging, printing and plastics machinery, technology, products and services expo, which this year took place in Manila during September, served as a barometer for how the Asian-Pacific plastics packaging market is moving towards a sustainability-focused future.

Exhibitors speaking to *Eco-plastics in Packaging* and seminar participants explained how they were making the Philippines more circular, in a 115 million population nation where – according to the country's National Research Council – 2.3 million tonnes of plastics are consumed annually, and only 28 per cent of key plastics resins are being recycled. Furthermore, 20-30 per cent of this plastics waste is believed by some to leak into the ocean.

DIC Philippines, the local branch of Tokyo-headquartered chemical company DIC Corporation, outlined its portfolio and capabilities in liquid inks (flexo and gravure) and adhesives, highlighting localised manufacturing, technology transfer from



HDPE containers on display at the Guangdong Leshan Intelligent Equipment Corp booth

US-based coatings-maker Sun Chemical (a member of the DIC Group), as well as a focus on sustainable, compliant packaging. Gravure inks remain the dominant product in the Philippines market.

DIC Philippines' main R&D is undertaken in Thailand. Raw materials come from Indonesia, and manufacturing is conducted in the Philippines city of Taguig, from pigments to finished inks.

The new DIC products on display at PackPrintPlas Philippines were primarily aimed at food packaging applications such as burger

wraps and clamshells. These currently utilise a structure of paper laminated with PE to protect the paper from absorbing moisture.

Compostable coating

A new water-based, compostable coating called Hydbar was introduced as a solution by DIC. This coating makes paper resistant to water and oil, and crucially, it degrades along with the paper part, unlike persistent standard PE.

A live demonstration highlighted a paper coated with Hydbar resisting water absorp-

tion over a period of 1.5 minutes, compared with an uncoated paper and one with a standard overprint varnish (OPV). The uncoated paper quickly absorbed water and became soft, while the OPV-coated paper also absorbed water and started to stain. The Hydbar-coated paper showed significantly better resistance, though water was still penetrating over time, illustrating its temporary but effective resistance.

“The performance of the coating, particularly its water resistance, is dependent on the applied thickness, with a required thickness to achieve optimal resistance,” explained Jeffrey Daclizion, a DIC sales manager. “The resistance is not forever but is effective for a specific duration, such as two to three hours for a burger wrap, ensuring it is still not disintegrated within that time limit.”

Japan-based Mitsui Chemicals, meanwhile, showed *Eco-plastics in Packaging* how it is focusing on improving the recyclability of flexible packaging, particularly polyolefins (PP and PE), as they are the most common and have the largest number of recyclers.

The company is actively shifting clients away from using PET in combination with polyolefins and aluminium foils, as these combinations are not recyclable.

But this is not easy as removing materials like PET and aluminium creates challenges, such as maintaining barrier properties for food protection and ensuring high speeds on production lines due to the gap required between substrate and sealant layers.

“Food waste is a much larger contributor to greenhouse gases than packaging, so maintaining food protection and shelf-life is the top priority in packaging sustainability, as reducing shelf-life significantly increases the risk of food not reaching the consumer, which is worse than using even the least sustainable packaging,” said Darell Chung, marketing manager at Mitsui Chemicals Asia-Pacific’s functional materials division.

“To address the tremendous loss of barrier properties when removing aluminium, we have developed solutions, such as V Barrier, maintaining shelf-life while transitioning to mono-materials.”

Chung explained how V Barrier is a structure with less than 5 per cent ethylene vinyl alcohol copolymer, making it still classifiable as a mono-material.

According to Chung, recyclers have confirmed they have no issues processing it, and it offers barrier properties almost similar to aluminium, while being price-competitive with aluminium foil.

“The technology has been commercialised over the last five years, a process that involved extensive collaboration with machine makers, converters and film makers to ensure smooth production and the development of suitable grades,” he pointed out.



LaserClean says its laser machines are able to clean anilox rollers more effectively than chemicals

“With major global brand owners like Nestlé, Uniqlo, and Procter & Gamble already using these new sustainable structures, the current challenge is to encourage regional and local brand owners to adopt them.”

Laser love

LaserClean, based in the Netherlands, used a seminar to pitch its laser machines, which are designed to clean the anilox rollers of flexo printers that print packaging materials, such as plastics film, but also corrugated boxes for end-of-line packing.

Historically, customers cleaned rollers with chemicals, water, baking soda or steel brushes. Unlike conventional chemical cleaning, which can leave a coating that reduces surface tension and hinders ink transfer, laser cleaning restores the roller’s surface to its original state, maximising surface tension. This allows the roller to transfer ink more effectively, resulting in a 7 per cent saving on consumables like ink.

“Laser cleaning offers several advantages: it’s easy to use, requires no personal protective equipment, has a lower cost price for cleaning, is quicker, and more secure,” explained Peter Speksnijder, managing director for Asia at LaserClean.

“It is highly sustainable as it uses no water, chemicals, or powders – eliminating wastewater, wastewater treatment, rinsing

and drying – while this method also extends the anilox roller’s lifespan from an average of three years to six years or more, as it avoids the aggressive damage caused by chemical cleaning.”

The company emphasises the importance of measuring roller condition, recommending an extra microscope, which is often purchased with the machine. This microscope can be set up in a portable 19-inch rack with an older computer (for example, one using Windows 10), to be moved between machines.

It visualises roller dirt like an ocean map, where darker blue indicates deeper pockets. Measuring allows users to determine when a roller is truly dirty and needs cleaning, preventing unnecessary cleaning cycles on already clean rollers, which can cause damage.

“Tests indicate that even after 40 hard cleaning cycles with a laser, only 0.1 micrometres are removed from the roller’s surface,” explained Speksnijder.

“Significant damage, such as cutting the roller, would only occur if safety mechanisms were intentionally bypassed and the roller remained stationary while the laser was active, which requires deliberate effort.”

LaserClean claims to have three customers in the Philippines already, with Speksnijder admitting, however, that while the country constitutes an interesting market, “pricing is still a bit out of reach” for some potential clients.

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Darell Chung, Mitsui Chemicals



PackPrintPlas was a showcase for several new packaging innovations



DIC Corporation presents its new Hydbar compostable coating

Adoption challenges

A high degree of price sensitivity was also observed by Smartpack Philippines Corporation, a Taiwanese-owned company that sells Taiwanese machinery in the Philippines, including printing, laminating, and excluder machines, primarily for plastics packaging materials and film production.

These machines are used to produce film, print it, laminate it and make bags. Smartpack also offers recycling machines for used plastics, but William Tsoi, chief executive of Smartpack Philippines Corporation, suggested there is low adoption in the Philippines because end-users commonly discard plastics in landfill.

“This is due to the high electricity and labour costs associated with recycling, with only about 5 per cent of businesses currently being willing to invest in recycling plants,” Tsoi said, even though the country’s Extended Producer Responsibility Act 2022 obliges larger companies to manage and recover their plastics packaging waste.

“Making matters worse, effective buying power in the Philippines is estimated to comprise 40 million people, not the full 115 million population. About 40 million is primarily concentrated in the three key cities – Manila, Cebu and Davao – and other second-line cities, while the remaining 80 million live in very rural areas without electricity or significant use of plastics packaging.”

According to Tsoi, business in the Philippines is slower now compared with three years ago, when gross domestic product (GDP) growth was 7.6 per cent (according to 2024 World Bank data) as the world emerged from its Covid-inspired slump, then easing back, with the Asian Development Bank forecasting Philippine GDP will grow by 5.6 per cent in 2025.

“Plastics manufacturers are less inclined to invest in machinery as markets soften, rather than pushing for sales growth,” Tsoi added.

Eco-friendly investments

For those companies inclined to invest, however, PackPrintPlas Philippines provided

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Jack Jian, Guangdong Leshan Intelligent Equipment Corp

plenty of opportunity to scout Chinese suppliers pitching eco-friendly solutions. Guangdong Leshan Intelligent Equipment Corp, for example, presented a full-electric blow moulding machine where all movements are controlled by servo motors. Unlike hydraulic models, which have motors that run continuously, the servo motor only runs when the carriage moves and stops when idle, saving energy.

The machines are used to make plastics containers from HDPE. They can produce for food-grade applications and for chemical products, depending on material grade.

The blow moulding systems use a programmable logic controller and are fully automatic after initial set-up, requiring minimal human intervention during operation. With a skilful operator, one person can handle two or three machines because they run fully automatically once set-up is complete.

“Power consumption can be up to 100 kilowatts per hour,” said Jack Jian, overseas sales manager at Leshan. “Saving 20 per cent equates to 20kW saved per hour, reducing production costs and increasing competitiveness.”

“Fully-electric machines are usually double the price of hydraulic models, but despite their higher upfront cost, a typical return on investment is achieved in one year, provided the machines run 24 hours, seven days a week, and the market is developed to secure sufficient orders.”

Nevertheless, even though electricity prices in the Philippines were noted by Jian as being high compared with China, the company offers both full-electric and hydraulic blow moulding machines in the country, given the lower buying power in the Philippines.

“However, we still see growth potential, as customers in the Philippines intend to produce the containers locally, as exporting empty containers is inefficient due to their large volume,” added Jian. “It is more practical and cost-effective to import raw materials and manufacture the bottles within the Philippines.”

Jiangsu Province-based plastics manufacturer and exporter HSQY also expressed concerns about local customers feeling the prices being too high for widespread adoption of one of its core product lines, crystalline PET (CPET) trays.

They are designed to be highly versatile, withstand wide temperature ranges from freezer-cold to oven-hot and offer good barrier properties for packaging convenience foods such as ready meals. The trays are suitable for use in both microwave and convection ovens. HSQY is one of China’s largest CPET suppliers with eight production lines dedicated to trays made from the polymer.

“CPET is popular in the US, the UAE and Saudi Arabia for ready meals, due to its high-temperature resistance and perceived environmental friendliness and, with a sealing film, these meals can be delivered to schools and hospitals,” said Vivi Yin, sales manager at HSQY.

“But with a single tray costing approximately \$0.10, which is about double the price of a PET tray of the same size, the price is a barrier to adoption in less developed markets like the Philippines,” he warned.

Ultimately, with the Philippines average GDP per head remaining at just \$3,984, stronger comprehensive growth is needed for companies to afford more expensive sustainable packaging solutions.