

Blurred lines

When is a label not just a label? When it is also a drinking cup. And that was not the only innovation blurring the boundaries between labels, flexibles and rigid packaging at Labelexpo Europe. **Dominique Huret** reports

This year marked the 40th anniversary of Labelexpo Europe, but also its 20th edition. From the early days of less than 50 exhibitors, the show recently hosted no fewer than 6,000 exhibitors and more than 37,000 visitors. It took place against a backdrop of Industry 4.0, the Internet of Things (IoT), and a boom in automation, while flexible packaging and the emergence of sustainable materials were undoubtedly the dominant themes.

Among the stand-out trends was the emergence of hybrid press technology. At one time there was the so-called ‘conventional’ press – flexo, gravure, offset, and so on – on one side, and then digital technology on the other. But more recently, we have started to see a merging of the two.

As hybrid presses also meet the needs of the label printer, many producers have joined forces, including Nilpeter and Trojan, Omet and Durst, MPS and Domino, and Edale and Fuji. Really new this year is the clear emphasis on making digital and conventional equipment work in harmony without the previous software incompatibilities between them.

Inkjet printing technology is also being improved with water-based printers featuring pigment-based ink systems being premiered at the show. Food-safe, the inks are thought to offer significant potential in the area of flexible food packaging.

The development of flexible packaging on mid-web presses has become an integral part of the show, and the HP Indigo Digital Pouch Factory was among the highlights. HP has joined forces with Karlville to introduce a complete system for HP Indigo flexible packaging production. Unlike traditional methods, HP-based pouch production can be concentrated within a single shift, enabling converters to profitably produce short-run jobs.

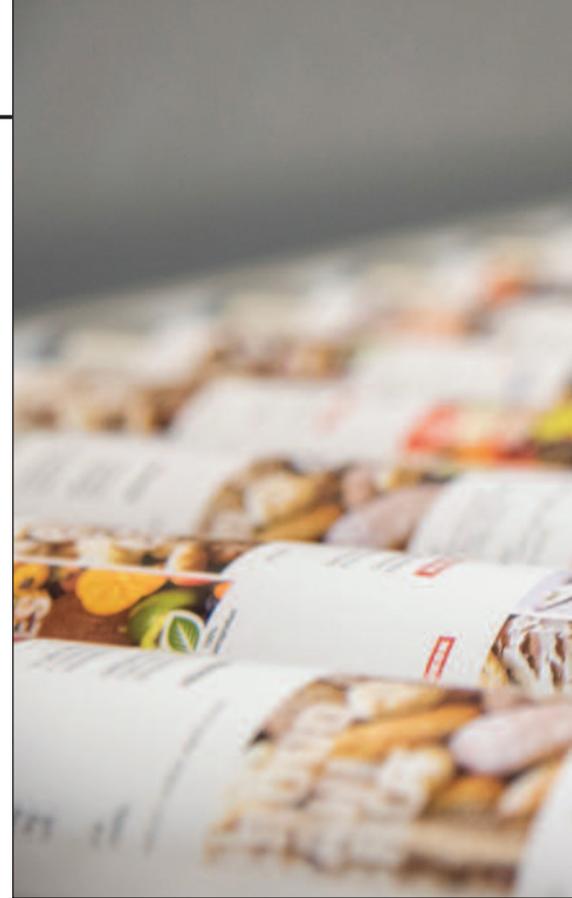
In a world’s first live demonstration, a stand-up three-side-seal pouch was produced using the mid-web HP Indigo 20000 digital press and narrow-web HP Indigo 6900 digital press, while Karlville supplied the Swiss pouch-making machines and the Pack Ready laminator and slitter. HP also provided PrintOS

and web-to-pack workflow automation software.

“HP Indigo’s collaboration with Karlville is disrupting the production of flexible pouches, the fastest-growing packaging sector,” said Alon Bar-Shany, general manager of HP Indigo. “We have designed a Digital Pouch Factory model to facilitate simplified, consistent and affordable production, providing converters with opportunities to deliver faster turnaround and improved sustainability. We are supporting customers to quickly ramp up their digital pouch production. There are about 50 different types of pouches that can be done with this suite of machines. It’s just mind-blowing.”

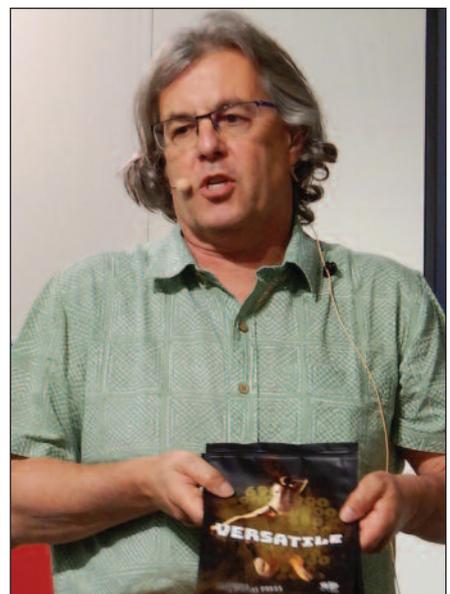
John Price, the president of Karlville, explained that his company designed a flexible line specifically to work with HP Indigo digital presses in order to cut time-to-market to a minimum and help reduce the complexity and investment involved.

“Thermal lamination is by far the most economic business approach for label companies



to enter flexible packaging space,” he said. “Pack Ready offers the opportunity to diversify and change mentality to laminate, slit and pouch in one day.”

The Karlville Pack Ready thermal laminator, optimised for HP Indigo ElectroInks, creates a sufficiently strong bond to allow slitting and pouch-making immediately after lamination. The Israeli company says it is suitable for a wide range of packaging applications and can comply with the most stringent global food safety regulations.



Above left: UPM Biofuels’ Maria Puustinen says Forest Film offers the same performance as conventional film. Above right: HP Indigo’s collaboration with Karlville is disrupting the production of flexible pouches, says HP Indigo’s general manager Alon Bar-Shany



Zeikon's digital printing solution claims to offer the broadest lamination construction possible

Czech Republic-based label converter Martin Peroutka is the first company to install the HP Indigo Digital Pouch Factory in Europe, while Digital Dogma is the first in the USA. Both are leveraging the system to diversify their label businesses and open new opportunities for growth and sustainability.

Now a division of Flint Group, Belgium's Zeikon showcased its digital printing solution for pouches with fleXflow. Zeikon's X-800 digital front end printing will drive the pouch production line on a Zeikon CX500 dry toner,

an industrial digital press with in-line thermal lamination on a Zeikon LCoat500 and in-line package converting. It has been developed for consumer goods markets – food, beverage, chemical and pharmaceutical industries.

Filip Weymans, Zeikon's vice president of marketing, said: "Pouches can be reasonably complex to manufacture because of the flexible nature of their multi-layers. It is essentially a laminated bag made from several layers of material that requires a number of different steps in production. Zeikon is helping to

simplify the overall process to provide a fast-turnaround solution. By firstly digitally printing the text and graphics on a thermal laminate, the outside layer of the pouch is prepared and ready for the next steps. A variety of different layers are then constructed by lamination with a series of barriers for protection before the pouch is finally put together in the manufacturing process. Zeikon's digital printing solution offers the lowest possible complexity and the broadest lamination construction possible."

Pouches can also be sustainable: a pouch has a so-called 'product-to-package' ratio of 35:1, which essentially means that it can carry up to 35 times its own weight, resulting in less energy consumption to produce the pack and to transport it after filling. Pouches can have a variety of different shapes depending on size, end-use application and functionality.

Weymans concluded: "Our digital printing solution for pouches utilises dry toner technology, which comes with a guarantee for food safety. Finally our technology also ensures consistency and an equal finish to offset and to flexo when colour matching is required."

Returning to labels and materials, Lintec Europe launched its new flagship brand Livasta for its core label-stock products, arriving at the show with no fewer than 35 labels.

The company partnered with Screen Europe at the show to address issues of ink and adhesive migration in the pharmaceutical packaging industry. In particular, it showcased its ultra-low-migration label-stock compatible with the low migration inks used by the Screen Truepress Jet L350UV.

"Safety issues over the migration of ink and adhesive components throughout the pharmaceutical supply chain, as well as the potential health hazards they could pose to end-users, are a cause for concern for brand owners and manufacturers," explained Soichiro Fujinaga, technical manager at Lintec Europe. "For this reason, label and packaging suppliers are facing a heightened demand to deliver solutions that ensure pharmaceutical products are protected from contamination caused by inks and adhesives that are capable of migrating through the package substrate."

In its industrial section, Lintec presented an extreme high-temperature label-stock that is able to withstand temperatures of up to 1,250 deg C, as well as harsh outdoor environments and chemical exposure. For the security sector, new custom message tape and labels have been developed with tamper-evident properties that instantly reveal a non-reversible customisable message if the label is removed from the product packaging.

When it comes to industry accolades, Avery Dennison was acknowledged at the Label Industry Global Awards for the second consecutive ▶



Above left: Lintec Europe's technical manager Soichiro Fujinaga.



Above right: Avery Dennison's Jordi Baeta points to new markets for smart tags

year, this time with the Environmental and Sustainability Award for its recycled PET.

Jeroen Diderich, vice president and general manager for Label and Graphic Materials EMEA, explained: “The liner, which uses 30 per cent PET post-consumer waste (PCW), meets technical qualifications while maintaining quality and performance for label design, printing, and application. The rPET portfolio offers four constructions, including one that uses ‘switchable’ CleanFlake Adhesive Technology, designed to enable label materials to separate cleanly from the PET bottle during the recycling process. This ultimately helps avoid contamination in the recycling process to ensure the PET can be converted into usable material. The beauty of it is that this product range will come at no extra cost.”

Although sustainability is still high on the company’s agenda, global VP for R&D Pascale Wautelet told Plastics in Packaging that today’s focus is on food waste. “This is the next crucial step, with traceability and end of life.”

He continued: “It’s great to witness more and more brand owners wanting clean flakes, but the quantities of recycled material on the market remain limited. So are we going to be able to buy? We at Avery want to sell these at no extra cost. And we are really keen on standards for rPP as it is key to maintaining quality.”

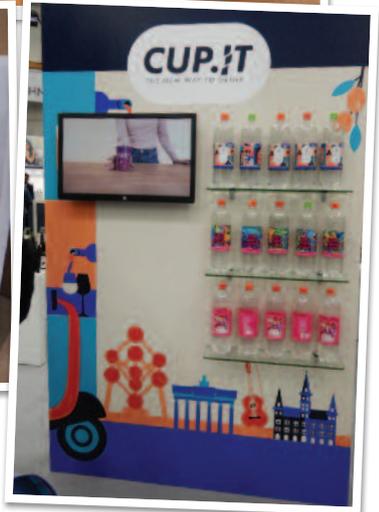
Earlier this year Avery Dennison claimed that it was working with the Japanese government on an initiative that could turn every convenience store in the country unstaffed by 2025. It is done using radio frequency identification (RFID) labels.

With its WaveSafe RFID tag, said to be the first microwave-safe tag of its kind, Avery Dennison is partnering with Pragmatic to develop inlays for multiple market applications. This electronics platform delivers high frequency flexible integrated circuits (FlexICs) thinner than a human hair that can easily be embedded into multiple substrates.

Jordi Baeta, market development for RFID at Avery Dennison, explained: “Smart tags are far from new. Since 2011 big retailers have used them, but we can now witness new sectors showing interest. Baggage tags are one.”

Elsewhere, UPM Raflatac and UPM Biofuels proposed two complementary wood-based and renewable labelling materials: Forest Film and Fossil-Free Adhesive.

“These labeling materials are produced with UPM BioVerno naphtha made from tall oil, a residue of pulp production,” said Panu



Main: Xeikon is supporting customers to quickly ramp up their digital pouch production. Above left: Lintec’s extreme high-temperature label-stock can withstand temperatures of up to 1,250 deg C. Above middle: The adhesive in Forest Film labels is about 1-2 per cent of the wood pulp. Above right: Cup-It is a label-to-pouch drinking cup

Routasalo, vice president, UPM Biofuels. “They are a great example of new product innovations originating from sustainably managed forests and concrete steps towards a future beyond fossil fuels.”

Maria Puustinen, senior speciality for sustainability and quality development at UPM Biofuels, added: “The Forest Film has the exact same performance as conventional film. The adhesive of the label is about 1-2 per cent of the wood pulp.”

Finally, among the start-ups on the HP stand, Cup-It got plenty of attention. A print application label-to-pouch drinking cup, it was designed for the patent-pending Doy stand-up pouch.

Ideal for digital printing short runs, multiple SKUs, and fast turnaround for seasonal and event printing, the first samples of the application were printed on an HP Indigo 20000 digital press. The labels turn into drinking cups where, for example, large bottles are being shared at festivals, sporting events, outdoor and holiday outings and more.

“Cup-It is the next-generation of labels, offering a compact, plastics-waste-reducing approach to label printing,” said founder Idan Noyberg. “Labelling with Cup-It is an opportunity to use bottle labels to attract consumers to your products by repurposing for a genuinely useful function.”