THE LAND OF THE BIG CATS

Italian flexible packaging converter ACM uses a Xeikon hybrid printing press for its stand-up pouches

Standalone digital printing presses and converting lines address the largest part of the market for labels, but new solutions are being developed to meet printer demand and expand the growth potential of digital. **Dominique Huret** visited Xeikon's Belgium facility to find out more

Prior to Luxembourg-headquartered Flint Group's acquisition of Xeikon in 2015, the Dutch firm was very much focused on digital toner technology with its Cheetah series. Two years later (and shortly after the acquisition of EFI Jetrion) Xeikon's first UV inkjet press – the Panther – was introduced, and the PX2000 and PX3000 were subsequently launched in 2018.

Skip forward a further two years, and Xeikon mastered the technology for labels, with the PX30000 joining the range with a seven-colour digital press.

"Today, we are ready with several innovations in the label and pouch segments," says Filip Weymans, Xeikon's vice-president for worldwide marketing. "First, our hybrid solution with hybrid printing presses includes a specific technology mix. These are label presses that incorporate one or more digital or conventional printing process in line with finishing units; techniques can include varnishing, spot colour printing, slitting, die-cutting and different embellishments."

The flexo-press stations can be completed with a toner or UV inkjet equipment, and then by post printing/finishing capabilities. According to Weymans, the machine becomes a one-stop shop from substrate to ready-label – a complete, single-pass production process flow, complete with reduced idle and set-up times, waste and surface footprint.

Along with the presses, Xeikon is able to integrate fully digital converting and embellishing products such as the Xeikon Laser die-cut unit, which can be configured into hybrid print and converting solutions, opening up new business opportunities.

"At Labelexpo Americas last year, we showcased this fully digital hybrid option," adds Weymans. "We believe hybrid solutions offer the best of both worlds."

New generation of UV LED ink

At the start of this year, Xeikon introduced a new family of inks for the Panther technology, and these PantherCure LED inks come with several benefits.

First, LED curing generates less heat, which allows for the use of more heat-sensitive substrates and broadens the application range. Secondly, LED curing eliminates the start-up and cooldown times of the lamp, leading to higher operating equipment effectiveness (OEE). Thirdly, the quality of the image is increased by the introduction of new screening, waveform and ink, delivering what Xeikon says is consistent UV curing for more than 20,000 hours, as opposed to 2,000 hours with mercury bulb curing.

Last but not least, the elimination of mercury bulbs limits waste and provides a more sustainable option, according to the company. LED ink curing requires less energy for the same speed, it adds, thereby decreasing the overall energy consumption by 20 per cent, which has a direct impact on total operating costs.

Xeikon estimates the combination of all elements reduces ink consumption by an average of 30 per cent. The new inks are also available on the PX2200 as well as the newer PX3300.

Xeikon's vice-president for worldwide marketing, Filip Weymans, presents the company's latest technology mix

Aniflex co-owner Maciej Wojtaszek says his company has built its business on flexo and digital

Xeikon has a large portfolio of labels

"Today, we already supply LED UV inks to the Xeikon Jetrion base – therefore adding UV LED inks was the next logical step for our Panther technology," adds Weymans. "Xeikon is renowned for having a determined sustainability programme and the PantherCure UV LED series contributes to those goals. The past couple of years have demonstrated that innovative companies with future-proof products are those that provide the best options to the customer for application choice and the highest OEE to safeguard their business goals."

Starting this year, customers of previous Panther Press models – PX3000 and PX2000 – will be eligible for free-of-charge field upgrades or retrofits.

Food safety demands

Although the flexible packaging market continues to grow at an annual rate of about 10 per cent, digital print has not in the past been strongly associated with food safety and sustainability. In the meantime, EU regulations around recycling are progressively banning laminates and varnishes from pouches.

"The packaging needs to keep its properties and barriers while remaining appealing and scuff-resistant," says Frank Jacobs, market intelligence and senior product manager at Xeikon. "The equation is complex."

More brands are looking to transition from filmic stand-up pouches to paper ones for reasons of sustainability and to reduce the use of non-recyclable multilayer plastics materials. However, with paper-based packaging, the demand on print technology has become more stringent in terms of food safety due to the lack of functional plastics barrier or lamination to protect the print itself.

Launched in 2022, Xeikon's dry toner Titon technology can be employed to print many types of flexible packaging for food products. It can be used for papers that are coated on one side for bags, pouches and sachets, or on both sides of wrappers for baked goods, confectionery, sugar, flour, herbs and spices, and coffee and tea.

"The key to Xeikon's Titon technology is a high molecular weight resin and a very low concentration of a solid initiator system used to make the dry toner – and an extra inline LED curing stage after the toner has been fused to the substrate," explains Andy Thomas-Emans, group strategic director for Labelexpo organiser Tarsus Labels Group. "The LED radiation cross-links the polyester-based toner particles to form the final, extremely tough toner layer. Because of the additional heat generated by the curing process, there is a cooling roller on the LED curing station. For the cross-linking process between polymer chains to work, the fused toners must remain at a high enough temperature to make the crosslinking happen."

Another key feature of Titon is its ability to withstand heat-sealing temperatures, which is essential to maintaining the pack's integrity and protecting the product.

A broad range of markets

With a focus on self-adhesive labels, Lithuanian family business Litograf addresses a broad range of end-use markets, from cosmetics to health, beauty, food, wine and spirits.

"Our company started by providing a label trading service but we quickly embarked on internal production through digital technology," explains Litograf business manager Eduard Vidra. "Our first investment was a Xeikon CX300 dry toner digital press. Recently, we invested in the PX30000, Xeikon's high-end UV inkjet press, offering CMYK and high opaque white printing. These two presses complement each other – the inkjet for the volume and the dry toner for smaller runs. This extends our market by delivering a broader range of applications."

Meanwhile, label printer Aniflex has been providing self-adhesive labels, shrink sleeves and flexible packaging to the market for more than 17 years.

"We have built our business on two complementary technologies: flexo and digital," says Maciej Wojtaszek, co-owner of the Polish company. "We believe in the strategy of diversifying technology to make our business stronger. In digital printing, we have done the reverse journey, starting with a UV inkjet press followed by a liquid toner press. Our latest investment is the more advanced Xeikon PX3300, which can deliver a better offering into the health and beauty market through the higher opaque white and screen print look and feel.

"For us, what is key is that Xeikon is the only supplier to the label printing industry that offers multiple digital printing technologies – toner and UV inkjet."

"Previous toner systems would simply have melted during the process," adds Jacobs. "Xeikon targets the use of 60 per cent rPET as raw material for its toner resin production. The second phase is to use bio-sourced materials to reduce the carbon footprint of the toner engines."

A live demo of the Titon toner system being used with a Xeikon CX500t – a member of the company's Cheetah 2.0 family – will take place at Labelexpo Europe in September. Also in keeping with the times, Xeikon has developed a small digital label press for craft producers, gourmet shops and outlets. The Label Discovery press is an entry-level UV inkjet and runs four-colour at 50m/min, while costing €250,000 ($273,000). EP