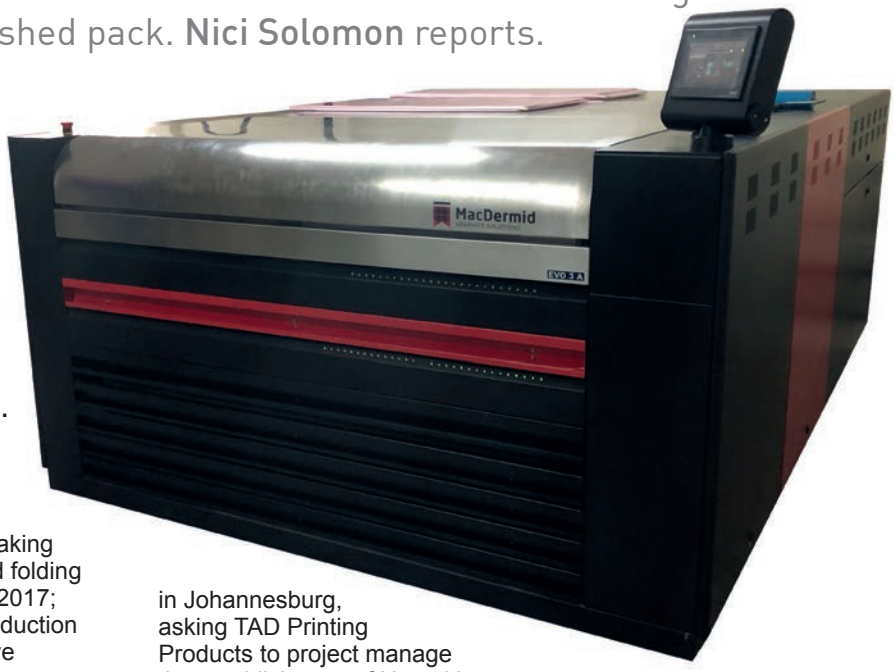
Natpak and TAD tap into resources for new platemaking partnership

Over the past six years, Harare-based Natpak has diversified its operations from woven polypropylene sack production to flexible packaging and corrugated/folding carton board. The Zimbabwean company's latest investment entailed setting up an in-house platemaking department to significantly reduce lead times from a customer's design concept to supplying the finished pack. **Nici Solomon** reports.



MANAGING a successful and diversified packaging converting company in the challenging Zimbabwean environment requires a workforce with a can-do attitude, contingency-planning mastery and a commitment to investing in state-of-the-art technology and equipment to produce large volume and high-quality output for some of the country's top consumer staple and durable goods brands, explains Natpak MD, Guy Martell.

Natpak's 39-year track record, he points out, is testament to the Innscor Africa Group's unwavering dedication to meeting brand owners' evolving needs, which saw it venture into flexible film, bag- and pouch-making production in 2014; invest in corrugated and folding carton board converter Alpha Packaging in 2017; commission a dedicated state-of-the-art production facility in Harare two years later; and achieve ISO 22000 Food Safety Management System certification.

Guy recounts that last year's decision to investigate establishing an in-house platemaking department to avoid continuing to buy plates at fluctuating US dollar costs resulted from a discussion with South African partner, Zibo Plastics, which mentioned that its repro house Raised Image had a second-hand Esko Spark imagesetter for sale. 'Zibo operations manager, Wayne Dickson, suggested that I meet with TAD Printing Products' Adrian Gildenhuys to outline Natpak's platemaking needs and the type of equipment, hardware and software we'd require for this venture,' Guy states.

Given the currency volatility and flux of manufacturing in Zimbabwe, Natpak considers an 18- to 24-month payback period a viable investment. Guy reports that the team's initial projection of a two-year return on investment has improved to around 12 months.

Adrian takes up the story. 'I was very surprised to receive an email from Guy five days after we met in Johannesburg, asking TAD Printing Products to project manage the establishment of Natpak's platemaking department and source equipment,' he states. 'After careful consideration, we decided to take on this project because it's outside the South African market and because Natpak, which operates within Zimbabwe's production and training constraints, agreed to partner with a South African reprographics provider, Raised Image, from which it bought the second-hand imagesetter. Raised Image produces the print-ready end files, which are sent directly to the Esko Spark system so that the Natpak team can make the plates. This image setter's profiles and that of Natpak's proofer have been set up to match Raised Image's proofer to print out identical proofs.

The benefits of this synchronised technology are, according to Natpak's operations manager, Richard Morgan, decreased lead times in getting plates to press, increased printing speeds and reduced costs. As Natpak's platemaking skills set and knowledge base continue developing, he believes these advantages will multiply.

In March 2019, Adrian undertook a two-day site inspection to design the prepress and platemaking department's layout. The basic structure was in place, but contractors had to tile the floor, install the roof and power points, and organise the electricity supply and connection.

In July, TAD's technical sales manager, Patrick Krieling, and technician, Ibrahim Dempers, installed and commissioned the prepress department's equipment, consisting of a Mac, Epson 7 000 proofer with RIP workflow software, Esko Spark 3548 plate imager and MacDermid Evo 3A all-in-one washout, exposure, dryer and light finishing unit.

More than a tad of tactical training

'During that week, to overcome the day-time load shedding power supply issues – and with Natpak running its back-up generators only when the flexo presses are printing jobs – we ran the platemaking equipment and conducted training at night,' Ibrahim recalls. 'The team's flexibility and adaptability in overcoming operational challenges and commitment to producing good quality print were very impressive.'

The initial training was followed by another three sessions, the first creating a basic understanding of how RIP works, how to put a job through and print a proof, the principles and practices of good colour management, imager output maximisation, and correct plate exposure and washout procedures.

The second session addressed the platemaker's queries and explored troubleshooting scenarios.

The final training session was dedicated to chemical recycling, as self-recovery and generation of solvents are such important aspects of flexo printing plate production. 'Natpak already had the processes and infrastructure in place for pressroom chemistry and from recycling the inks of its two flexo presses,' explains Patrick Krieling. 'Nylosolv is, however, challenging to work with because it's a three-part chemical, with each evaporating at a different temperature during distillation. It is, thus, best to run the cycle right to the end to avoid the risk of leaving one behind, which would necessitate a complicated rebalancing process.'

Patrick adds that recycling this hazardous (flammable) solvent and generating its own chemicals mean Natpak does not have to outsource this service to a South African company and pay for the associated transport- and cross-border duty-related costs.

Richard Morgan wholeheartedly agrees that TAD Printing Products' technical training and support have been invaluable every step of the way, and have ensured that Natpak, as a platemaking novice, has been able to launch and successfully run this in-house project. 'Adrian is in weekly contact with me and the prepress department as our MacDermid polymer material supplier, and Patrick is in regular contact with our platemaker, name surname,' he explains. 'Tawanda Makuvise is a qualified engineer with a natural aptitude for the continual attention to detail required and maximum polymer material utilisation in breaking up a job to be a good flexo platemaker.'

Natpak's Evo-lution to platemaking excellence

THE MacDermid Evo 3A, supplied to Natpak by southern African representative, TAD Printing Products, consists of an exposure section, washout section, a four-drawer dryer and light finisher system for plates up to 900mm x 1 200mm.

TAD's Adrian Gildenhuys notes that the adoption of the latest technologies and ergonomic design improvements, such as a pneumatic lid that automatically opens and closes, has increased plate quality and consistency, and maximised productivity by reducing operator fatigue and discomfort. Additionally, the zero-flicker, high-quality and high-efficiency fluorescent tubes guarantee imaging of the finest details on any flexo plate.

The exposure section's closed loop water-cooled exposure bed system, with improved heat transfer efficiency, ensures uniform and constant temperatures, regardless of the exposure time for analogue and digital flexo plates. The high concentration of UVA lamps achieves emissions of about 30MW/cm².

The digital washout unit has a separate prewash section to prevent the black layer contaminating the washout solvent, an inline washout system with front and rear access, and tilting plate support for user-friendly plate loading and unloading.

Its other key design features include a servo-driven motor advance system that enables a constant and repeatable washout speed, double movement brushes that reduce washout times to between five and 10 minutes (depending on plate thickness), an automatic solvent replenishment system, and constant solvent temperature thanks to a looped water circulation system.

The dryer section comprises four drawers to prevent fume leaks and two separate temperature control interfaces for optimal uniformity. Additionally, drying temperature is reached quickly through automatic preheating and optimised hot air generation and circulation systems.

The light finishing system uses auto-combined UVA-UVC post-exposure (simultaneous/consecutive or delayed), optical fibre lamp control and an airflow cooling system.