

LITHOGRAPHIC AND DIGITAL PRINT TECHNOLOGY



THE NEW INDUSTRY STANDARD?

As offset printing still remains a sturdy part of the print industry, many manufacturers have heralded digital printing as a complimentary technology to lithographic print, instead of competition. David Osgar investigates the way both technologies are being used in the field and manufacturers' thoughts on the different options

A historic part of print, lithography is one of the most traditional forms of print you can find. Using plates and a mixture of inks, lithography is used for a number of processes such as book printing, catalogues, and posters.

Despite the quality and reliability of lithography, digital printing has generated more and more popularity of the last thirty years. The reduced cost of operation and the manual input involved in the process has made it an appealing direction for the industry to go in. However, with less capabilities for heavier weights of stock and more expense when it comes to large

One of the biggest questions surrounding last year's drupa trade fair was the role of lithographic/offset printing considering the number of advancements that have been made in digital technology over the last few years.

But as the industry has done many times in its long history, manufacturers and businesses have embraced change and ensured a future that best serves all relevant technologies. At drupa many big names such as Kodak, Koenig & Bauer, and HEIDELBERG supported the addition of digital technology to their arsenals, with the latter company even announ-

portfolio.

So, what is the future of litho considering this news, and how can these technologies work side by side? Let's investigate.

Utilising Both Technologies

As already alluded to, HEIDELBERG and Canon's collaboration is one that certainly turned a lot of heads at last year's drupa. But rather than recap that news, let's find out more about the technology straight from the horse's mouth.

HEIDELBERG Druckmaschinen AG (commonly known as HEIDELBERG) has been a part of the printing industry for 175



machinery including letterpress printing presses.

Speaking of the company's more recent embracing of digital technology, Matt Rockley, product executive shepherded at HEIDELBERG UK, says: "Over the past two decades, HEIDELBERG has invested heavily in digitalization, connecting approximately 13,000 machines and systems worldwide to the HEIDELBERG Cloud."

Speaking of the company's outlook today, Rockley says: "HEIDELBERG remains the leader in lithographic printing, blending traditional offset expertise with digital advancements to shape the future of print technology."

HEIDELBERG says that traditional (litho/offset) and digital printing technologies can now complement each other in order to enhance efficiency, flexibility, and cost-effectiveness in modern print production. "By integrating both methods, print shops can maximize productivity, reduce costs, and meet diverse customer needs," adds Rockley.

The company says that by introducing the HEIDELBERG Jetfire, an inkjet solution, and the Versafire, a toner solution, the manufacturer is demonstrating its commitment to integrating offset and

digital technologies.

Rockley explains: "The Jetfire family, developed in collaboration with Canon, features advanced inkjet technology and is seamlessly integrated into HEIDELBERG's Prinect workflow. This integration ensures that both offset and digital printing processes operate cohesively within a single system, offering maximum flexibility and cost-effectiveness."

▲ [L to R] Peter Wolff, chief marketing officer, Canon CPP, and Dr David Schmieding, member of the Executive Board for Sales and Service, HEIDELBERG

Litho remains unmatched in its ability to deliver high-quality, reliable, and cost-effective results for large-volume orders

A subsidiary of HEIDELBERG that Rockley also highlights as embracing litho and digital technologies is Gallus. "Its hybrid press systems, such as the Gallus Labelfire, combine conventional flexographic printing with high-quality digital inkjet printing, enabling efficient and flexible label production."

A company in the printing industry

that uses HEIDELBERG technology in its operations is Route 1 Print, a trade printer operating under Bluestree Group. Introducing the company, Jack Parks, head of Route 1 Print, says: "It's our approach to partnerships that really sets us apart, we become an extension of our customer's business. Operating from our 147,000sq ft factory, we work exclusively with print resellers and not end users, dispatching over 10,000 jobs every week."

The company uses two HEIDELBERG Speedmaster XL 100s and an XL 75 Press, with the Speedmasters producing up to 15,000 sheets per hour and the XL 75 running at 12,500 sheets per hour.

Speaking of Route 1's embracing of litho and digital print, Parks says: "We've refined our lithographic offering by having three highly efficient printers, whilst also focusing on integrating advanced digital technology like our second Lands press and our fleet of HP Indigos."

Discussing Route 1's set up, Parks adds: "To maximise efficiency in our litho stream, we use specialist workflow software to gang up jobs. Depending on the size, multiple pieces of artwork can be grouped onto a single plate. This smart system ensures we use resources as economically as possible, reducing waste and keeping costs low for our customers."

Speaking about working with traditional and digital technologies, Parks say it has never been one or the other from Route 1, adding: "It's about choosing the right technology for each job. Litho remains unmatched in its ability to deliver high-quality, reliable, and cost-effective results for large-volume orders. On the other hand, digital printing excels in producing smaller runs quickly and affordably. By blending these two methods, we main-

tain flexibility and competitiveness while upholding our high-quality standards."

In order to highlight the way Route 1 operates, and the way it supports its customers with its mantra: "Our factory is your factory", the business often runs open day tours to show customers the company's full range of lithographic and digital technologies. Parks explains:



"Customers get hands-on insight into how each machine operates, meet the teams behind the presses, and see first-hand how we strategically combine litho and digital processes to maximise efficiency and quality."

"By the end of the tour, our customers leave confident in understanding not only the value of both technologies but also how they can rely on us to support their business growth with our expertise and state-of-the-art equipment."

The "And" Era of Print

One print company that has continued to embrace traditional and digital print production is CFI, a business that has operated in the industry since 1977 with a "modest setup" and now has three sites with its main factory spanning 115,000sq ft in size.

Steve Cray, production director at the company, says: "We made a significant impact by pioneering Docmail in 2008, the first true hybrid mail solution on the market. Continual innovation has enabled us to operate in sectors including healthcare, local government, finance, and elections, producing more than 30 million documents annually."

Cray explains that lithographic printing has been central to CFI's history since it started trading over 45 years ago as it remains key to its operations today. "We rely on lithographic printers to produce specialist documents such as sustainable paper wrap and business stationery to cheques and certificates. Offset printing has continued to support our clients'

▲ Route 1 Print uses two HEIDELBERG Speedmaster XL 106s and an XL 75 Press

needs and often complements products sourced from our modern digital offering."

Recently CFI invested in a Xerox Iridesse Production Press in order to boost its digital solutions as the machine can produce embellishment printing such as metallic emulsion, white, fluorescent, and gloss/varnish effects.

For CFI, lithographic print demand remains strong with its client base, especially as the medium is "ideal" for medium to long runs of high-quality products with a fast turnaround. Cray says: "We can use lithographic printing for base stock

followed by digital print and fulfilment for seamless integration with multiple options for document enhancement that adds value to the final product."

Cray also emphasises how its ability to maintain its lithographic press fleet and advice to customers from design to final product has helped it to keep sales strong. "Our key sales contacts, Julian Smith and Katie Horton, are always on hand to help, support and advise prospective customers. For example, we recently worked with a well-known high street toy retailer to transition their inte-



► Steve Cray, production director at CFI in front of the company's Xerox Iridesse



grated product application to a more effective solution which better met their needs." Just like the manufacture of toys, one thing that is consistent throughout this research is the amount of legacy behind users and manufacturers of litho technology, which isn't surprising considering its long history in print.

Kodak, a company with a rich history in printing technology, has been selling materials designed for the printing industry as early as 1912. As well as being manufacturers of offset printers, Kodak is one of the few major manufacturers of offset printing plates.

In the 1990s, Kodak says it was the first to commercialise an infrared-sensitive thermal digital printing plate, later paving the way for process free plate technology. Today Kodak is also one of the largest CTP manufacturers in the world following its innovations in thermal technology for imaging printing plates in the mid to late 90s.

Speaking about current innovations in this field, Denise Goldberg, chief marketing officer and head of EAMER sales at Kodak, says: "Kodak continuously improves and develops its plate, CTP and workflow software products to

▲ Kodak's SONORA Ultra Process Free Plate on an offset CTP1x1

meet the changing needs of the industry, incorporating innovative technologies with efficient features that empower printers to streamline their operations, minimise bottlenecks and waste, shorten turnaround times, and improve their output quality.

6,000

According to Kodak more than 6,000 printers around the world rely on KODAK SONORA Plates

"The new KODAK MAGNUS Q3600 Titan Platesetter is the most versatile CTP system on the market. It offers enhanced automation, productivity, and reliability for 4-up, 8-up, and WLF plate imaging."

Speaking about how Kodak has faced the integration of digital printing, Goldberg comments: "In today's 'and' era of print, the key to success is understanding both traditional and digital technologies

and the roles each can play in maximising profitability and capitalising on new business opportunities."

Speaking of how Kodak works with its customers on this transition, Goldberg says: "Every printing company is different, operates in different market segments, has individual business goals, and is faced with different customer requirements. With our comprehensive portfolio, Kodak can provide every printer with an optimal solution – be it digital or offset."

"From offset plates and highly automated CTP systems to workflow software platforms and our PROSPER ULTRA 520 and PROSPER 7000 Turbo Presses, as well as PROSPER Imprinting Systems for high-speed inkjet production printing, Kodak can offer its customers the right solution for their business."

Speaking of its expertise in the field, Goldberg stresses that Kodak can navigate this "and" era of print as the company knows the entire industry and can help printers to say "yes" to any job and position themselves for profit. "Kodak's cutting-edge print solutions help printers worldwide seize new business opportunities, serve their customers profitably, and grow sustainably," says Goldberg.

Tried and Trusted

Another manufacturer with a long history in the printing industry is Manroland, a producer of German-engineered presses which has existed since 1871. Recently the UK arm of the business has come back into the fray with a new outlook thanks to the hire of a new managing director, Daniel Godbold.

Upon Godbold's hire in July 2024, the company said: "His leadership and strategic vision will be instrumental in driving Manroland Sheffield UK towards new heights."

Due to Manroland's long history in lithographic technology, the business has made sure to stay loyal to the technology and the capabilities of its innovations. The manufacturer says it was one of the first producers of litho technology to introduce automation to its systems in order to significantly improve printing speeds and quality.

Speaking of the company's recent innovations, Gitika Hariyan, who works in sales and marketing at Manroland, says: "Manroland continues to push the boundaries of lithographic technology. Our latest innovations include inline camera technology for automated densitometer and register control, and web technology cameras that detect hiccups, scratches, and imperfections in real-time. These advancements allow for high-per-

formance printing speeds of up to 20,000 sheets per hour, all while maintaining unparalleled precision and consistency."

When it comes to the role of digital technology, Hariyan adds: "While digital presses certainly have their place in short-run printing, lithographic presses remain the most cost-effective and fastest

panies' digital, folding carton, corrugated, and software solutions. Speaking of the combination of different technologies, Jochen Sproll, strategy and business development manager at Koenig & Bauer Durst, says: "By combining the very best of conventional and digital printing in the folding carton and corrugated markets,

ing is reshaping the folding carton market by enabling rapid, flexible, and sustainable production solutions. While it's not a replacement for traditional methods, its role is growing, particularly for shorter runs, design flexibility, versioning, and agile production needs. A large portion of folding carton converters see the future of the packaging industry as a hybrid approach, combining digital and conventional printing to balance cost, scale, and customisation needs.

"The VariJET 106 single-pass press, a collaborative development by Durst and Koenig & Bauer specifically for the folding carton markets, will transform business operations. Among its big strengths is the outstanding colour-to-colour registration and machine stability ensuring high uptimes. Black negative can be printed in as little as 4pt font even with the densest black. It is especially useful with barcode work when every job is different."

Sproll also highlights the continued success of certain areas of the market: "All-in-one production – particularly with embellishment possible for anything from tobacco packaging to pharmaceutical applications – is also becoming increasingly important. The VariJET 106 can run at 5,550sph in line embellishment in B1 digital format. Digital packaging printing on the VariJET eliminates time-consuming processes such as colour matching for new packaging products. From concept to market-ready product, the timeline will be reduced from weeks to just days."

Evidently lithographic technology is here to stay, with digital printing no longer being a threat but a worthy companion to many businesses that use offset printing. While we don't know what future innovations and technologies may hold, currently it is hard to disagree that these long-standing companies know what they are talking about, and while some are embracing digital technology more than others, ultimately, there's still space in the market for both litho and digital.

▼ The Koenig & Bauer Durst VariJET106

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option for medium to large print runs. Given the lifespan of a Manroland press, which is two to three times longer than a digital press, it's easy to see why lithographic printing remains the preferred choice for many."

Like other manufacturers mentioned in this article, Manroland also works with its customers to ensure that lithographic and digital technologies can work together. Hariyan notes: "Our hybrid solutions provide the flexibility needed to optimise workflows and ensure that clients can meet a wide range of printing demands, both traditional and digital, without compromising on quality or efficiency."

Last but not least from the legacy manufacturers is Koenig & Bauer Durst, a company which stretches all the way back to 1817 when Koenig & Bauer was founded by Friedrich Koenig and Andreas Friedrich Bauer. Additionally, Durst was established in 1936 by photography enthusiasts Julius and Gilbert Durst. Today the company produces a range of photochemical and superwide-format inkjet printers based on UV polymerization ink technology.

In 2019 Koenig & Bauer Durst was formed in order to strength the two com-

panies' digital, folding carton, corrugated, and software solutions. Speaking of the combination of different technologies, Jochen Sproll, strategy and business development manager at Koenig & Bauer Durst, says: "By combining the very best of conventional and digital printing in the folding carton and corrugated markets,

Factoid Founded in 1817 by Friedrich Koenig and Andreas Friedrich Bauer, Koenig & Bauer is the oldest printing press manufacturer in the world which is still in service

ments. We can offer them the best of both worlds."

Speaking of changes in the industry, Koenig & Bauer Durst emphasises that packaging is one of the strongest mediums for communication between brands and customers. The company says that ever decreasing run-lengths and shorter lead times mean that productive presses are needed to enable converters to manage complexity with lower operating costs and high-quality print results.

When it comes to digital printing in packaging, Sproll explains: "Digital print-

