Litho and digital – a complementary mix

It is becoming more common to find printers using more than one printing technology at a time. Does this trend allow sheet fed digital printing to complement a predominantly offset printing operation? By Andrew Tribute

The typical way that litho and digital technologies mix in one print room, is in the situation where sheet fed digital printing is added as an additional capability to a predominantly offset printing operation. This allows offset printers to profitably handle very short-run work and get into new markets where offset printing is not appropriate. This includes mainly business to consumer operations such as photo books and variable data printing for one to one marketing, direct mail and even internet based services.

For the conventional offset printer, however, offset and digital technologies are run separately using different workflows and the printing technology to be used is chosen at the time of quoting for the job, rather than at the time of production. It is predicted, the trend in future will be for the work to be done simultaneously, a common workflow used and for the technology to be selected at the time of production only. For this to happen, the output from the two technologies must look the same in terms of both image quality and colour compatibility.

With the launch of Heidelberg’s partnership with Ricoh, the common workflow and colour compatibility was a principal theme of the Heidelberg message under a marketing term called HEI Flexibility.
This was demonstrated with the example of the production of a marketing package for a golf event where each item in the package was printed using either offset or digital printing and the look of the different outputs was near identical. This package was all driven from Heidelberg’s workflow with common colour management. In the UK, Heidelberg has also demonstrated how this workflow can be extended up the value chain. Heidelberg UK joined forces with the cloud based web-to-print company Red Tie for online ordering and direct communication with the print buyer or specifier.

Where should digital printing fit
The Heidelberg example above is a demonstration of what can be done, and today we are seeing similar things from many printers in the industry using a range of different equipment. The use of digital printing to carry out work that would previously have been printed by offset, is only part of the way digital printing is complementing offset. It is an example of how printers have found it necessary to implement digital printing in order to provide a more complete service to their customers while staying profitable. Today the digital printing offered by all suppliers can match four-colour offset printing for quality and colour reproduction.

While digital printing has been the technology in the limelight over the past few years, offset technology has continued to develop and become more efficient and more suited for short run printing. Some digital printers have also seen the need to invest in offset to handle a wider range of work. In these cases, it is often seen that a digital printer will add offset printing with a D.I. technology capability – from Presstek for example. One reason for this is that digital printing companies don’t want to invest in offset printing skills, and the Presstek D.I. presses can run almost like digital presses with offset costs. Presstek chairman, president and CEO Jeff Jacobsen states the following.

‘We have a term called bridging the gap. Customers are having great difficulty, as 80 per cent of all printing in four-colour is under 5 000 impressions and to do that efficiently, you cannot do it with electrophotography, because the toner is too expensive and inkjet is not there yet. Between 500 and 20 000 impressions DI will give you the absolute highest quality at the lowest cost per piece.’ Sheetfed digital printing has developed hugely over the past decade. While major attention has focused on the high productivity presses from HP Indigo, Kodak and Xerox we have seen key developments in the mid volume and light production areas. A recent announcement in the light production space has come with a joint development of a new next-generation printer using existing proven technologies from Canon and Océ. We are now seeing additional functionality being added to these presses. This is often in the form of a fifth printing unit for adding the equivalent of a coating or varnish.

An example of this is the Xerox 1000 Color Press, where the clear dry ink allows for special effects like spot varnishing. The Kodak Nexpress offers a similar functionality. We are also seeing larger sheet sizes being offered. The Xerox iGen4 EXP handles sheets up to 66cm in length, permitting a wider range of work to be handled on the press. The Kodak Nexpress SX also offers a similar sheet size capability. This, however, is only part of the way that digital printing can complement offset printing and enhance the offerings that printers can provide for their customers. The key for printers building their businesses today is to be able to offer a wide range of integrated services and products rather than ‘just’ high-quality printing. The key to this is through enhancing workflow and becoming accessible to a wider range of customers.

This can be done by using workflow to reach new buyers for whom buying print is a normal procedure, as well as by making it easier for print buyers to work with a printer. Apart from the standard quick print shop, printing has predominantly been a business-to-business (B2B) operation. Internet based ordering, workflow and digital printing is now making printing a business-to-consumer (B2C) operation.

Changing the business model
A very good example of this can be seen in the case of UK-based printer, Precision Printing. Precision was initially a typical medium sized offset printer, and it first
invested in digital technology in 2005 with the purchase of an HP Indigo press. For a number of years, its digital business was just complementing the litho business for short run printing that matched its offset printing. Following Drupa 2008, Precision changed its business operations by developing its own workflow for automating all processes, and by adding a very advanced web to print ordering operation through an alliance with Italian specialist Pixelart printing.

This has allowed Precision to double its turnover in five years with only a small increase in staff. Precision’s offset printing turnover has hardly changed in that time despite an increase in capacity with a new Heidelberg 10-unit press. The increase in turnover has come from moving to a B2C operation – with online ordering and automated production via its workflow. Its workflow allows a huge number of small jobs to be processed via its four HP Indigo presses.

At the same time the addition of variable data printing has allowed Precision to offer a much wider range of services to its B2B customers. Web-to-print software and integrated workflow is the key for making print businesses more efficient and allowing them to widen their markets as Precision has done. This type of workflow was one of the key items on show at Drupa 2012 from a range of companies. Kodak, for instance, demonstrated this with its Unified Workflow Solutions software. Many other prominent industry vendors demonstrated similar workflow approaches that reach up and down the value chain to allow printers to widen the scope of their businesses.

**Imposition optimisation creates a new business**

One new area of web-to-print that we are now seeing is specialised workflow software that optimises the loading and scheduling of work on a press. In the past few years, particularly in Germany, there has been a major rise of web-to-print jobs where printers are using specialised software to gang multiple jobs on the same press. In these cases they are mainly using large-format four-colour offset presses, rather than digital presses, for the work. One company well-known for this is Vistaprint, but I feel the best example of where this is happening is at Flyeralarm. They run multiple large-format KBA and Heidelberg offset presses, as well as digital presses, with all work being ordered online via its websites and online stores around Europe. Currently it processes an average of 10 000 orders per day of which 99 per cent are online orders. One of the keys to such efficiency is the very fast make-ready and low manpower levels of modern large-format offset presses. Companies like Flyeralarm have developed their own workflow and job-ganging software for this purpose. Today, such software has become readily available from certain suppliers, to allow other printers to enter this high-volume web-to-print market. Litho Technics has a solution for automatically generating complex imposition plans for ganging multiple jobs together on one sheet.

One user is MPG Books, a leading UK book printer. It needed to increase its capacity from 400 to 600 book titles per month, and recognised gang printing as a solution. MPG Books technical R&D manager, Colin Gammon stated, ‘The software has helped us remain highly competitive by cutting our labour costs in half. The AutoLayout feature allows us to put more work on a single sheet, which reduces spoilage and speeds job turnaround.’ One can also see this solution integrated into some other suppliers’ workflow packages. This includes Fujifilm Europe adding it to its XMF suite of workflow solutions and EFI using it with some of its MIS systems. In the UK, MIS supplier Tharstern is also developing a work-ganging imposition extension to its systems.

**Traditional suppliers going digital**

One of the key trends seen at Drupa 2012 was leading offset press suppliers entering the digital market place. Heidelberg’s partnership with Ricoh was announced and the first systems installed. Manroland has announced a partnership with the Canon owned company, Océ to sell high-speed inkjet presses into its markets. KBA will also enter this market through a partnership with the world’s largest printer R.R. Donnelley, which has developed its own inkjet presses and is licensing its inkjet technology for KBA to build its own presses.

These Manroland and KBA inkjet presses will be aimed at the traditional high-volume offset printers that publish books, direct mail, magazines and newspapers with the aim of changing the business models for printers in these markets. So far, the majority of high-speed inkjet presses have been sold to transactional printers and few commercial printers have invested in...
this technology. In the USA, some book printers have installed inkjet presses, predominantly from HP or Kodak. They have used these presses to change the business models of publishers so that run lengths of colour books of less than 5,000 copies are now viable.

This allows print buyers to reduce their levels of inventory of offset printed books where ordered run lengths are usually longer in order to get a lower price per book. A good example of this is a small USA book printer, King Printing, who was the first book printer to invest in high-speed inkjet presses for book printing and now has two presses in its printroom with a third on order. King Printing anticipates that with the success of this technology, customers may change their business models by phasing out their offset printing operations and becoming a total digital printing company. King Printing president Aditya Chinai says that ‘We are becoming inventory managers for our customers as they look to cut their warehousing and costs. With inkjet the frequency of orders increases and the quantity of run decreases. We may see 10 orders for 50 copies of a title, instead of one large run. It is now print-for-order rather than print-for-speculation.’

It is anticipated that with the entry of Manroland and KBA into the digital market, book and magazine printers will be more likely to install high-speed inkjet presses to help change the business models of their customers in the book, magazine and newspaper industries.

**The future of offset?**

This is perhaps the key thing printers need to understand about the impact of new workflow approaches, web-to-print and digital printing: it allows them to work with their customers to help them change the way they do business.

The new business model for printers is to be a multiple media communications supplier in which print is just one way of communicating. Printers’ customers are being offered a whole new way of communicating and have access to a range of new suppliers. The new web-to-print and workflow tools allow a printer to be able to make it easier for customers to work with them, or for the printer to offer a wider range of services to become a more complete supplier.

This is not saying offset will disappear – far from it. Offset will remain the major element of most printers’ businesses, but without digital printing and automated internet-based workflows, customers will move away from just offset centric suppliers.