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STRATEGISING YOUR APPROACH TOWARDS DIGITAL PRODUCTION

This white paper has been produced to help label and packaging converters prosper. They face many challenges, and the aim of the white paper is to see whether digital print can address these challenges and help develop a sound business strategy in this fast-changing world. Of course, there is no single strategy applicable to the thousands of companies competing in label and packaging production. There are multi-national

incredibly wide variety of products from food to industrial goods, luxury items to pharmaceuticals to flowers, and so much more. Packaging and labels enable efficient supply chains from manufacturing to place of sale and then in use. The print identifies the product, provides information for consumers and promotes the contents to support the brand. Packaging is having to work harder as brands and retailers,

who are under severe competitive pressures, act to appeal to the ever-changing end-user demands.

The Xeikon Café Exhibition & Conference event, already at its 4th edition in 2018, features many of the key players in workflow, print media, consumables, printing

giants and tiny independent converters, all trying to make sense of the pressure and demands of existing customers, while winning new business.

Printed packaging and labels across Europe is a large (€82.4 billion in 2018) and steadily growing (2.1%-3.8% CAGR over 5 years to 2022) industry sector. Packaging is used to contain and protect an

and finishing for labels and packaging. It is a great opportunity to learn and discover, and take away understanding of the trend to digitise print manufacturing through demonstrations, presentations, workshops and discussions. It is an excellent occasion to network, get first-hand actionable information and advice on industry innovations and trends, and find out how these can help improve bottom lines.

Chapter 1:

Trends and drivers in the label & packaging market

Package production methods are evolving in response to the trends that are driving changes in supply chains. The two overriding factors are:

economics of manufacture for providers

packaging and label buyers attempting to make the most of changing end-user expectations and demands

As always, cost is a key metric and the real cost of packaging is falling due to intense competition and improvements in technology across the supply chain. **The drupa Global Trends Report¹** found that 'prices and margins continue to fall in most regions and for most printers the solution, in the short term at least, is to increase

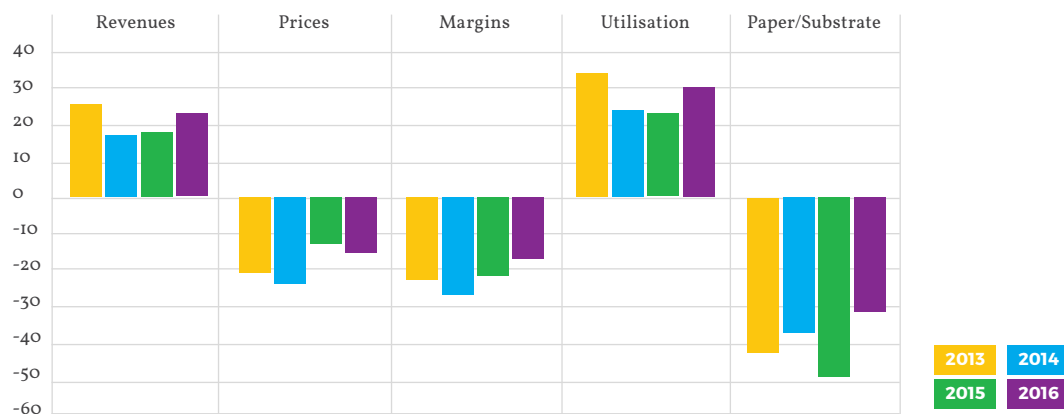
utilisation and therefore revenues'. At the same time, the report identified 'the changing production mix of conventional print continues with ever-shorter run lengths and reduced lead times, but some sign of a slow-down in the growth of the number of jobs'.

Users of digital print equipment

have benefits for analogue printing machines when used together. Placing very short-runs onto a digital press can release significant press capacity on litho and flexo presses. The make-ready time spent on analogue presses becomes a major bottleneck when print runs fall and the company has to produce a higher number

Global printer financial performance measures

% net balance positive v negative





of jobs. Therefore, allowing the digital press to take over some of these jobs releases time on the flexo machine to produce the longer runs more effectively. The overall operational effectiveness of a plant will be boosted by the adoption of digital printing, making litho or flexo production more effective with more hours available to print saleable products.

Pressure to reduce costs will continue, with buyers looking at all aspects of creation, production, distribution and use of labels and packs. The big changes in packaging are in response to changing retail and distribution methods. Food and beverage represents the biggest market sector by far with fast moving consumer goods, including household and personal care, forming the bulk of the market. These are currently sold through traditional supermarket retailers, who are under pressure both from aggressive Discount Retailers and the rise of online e-commerce

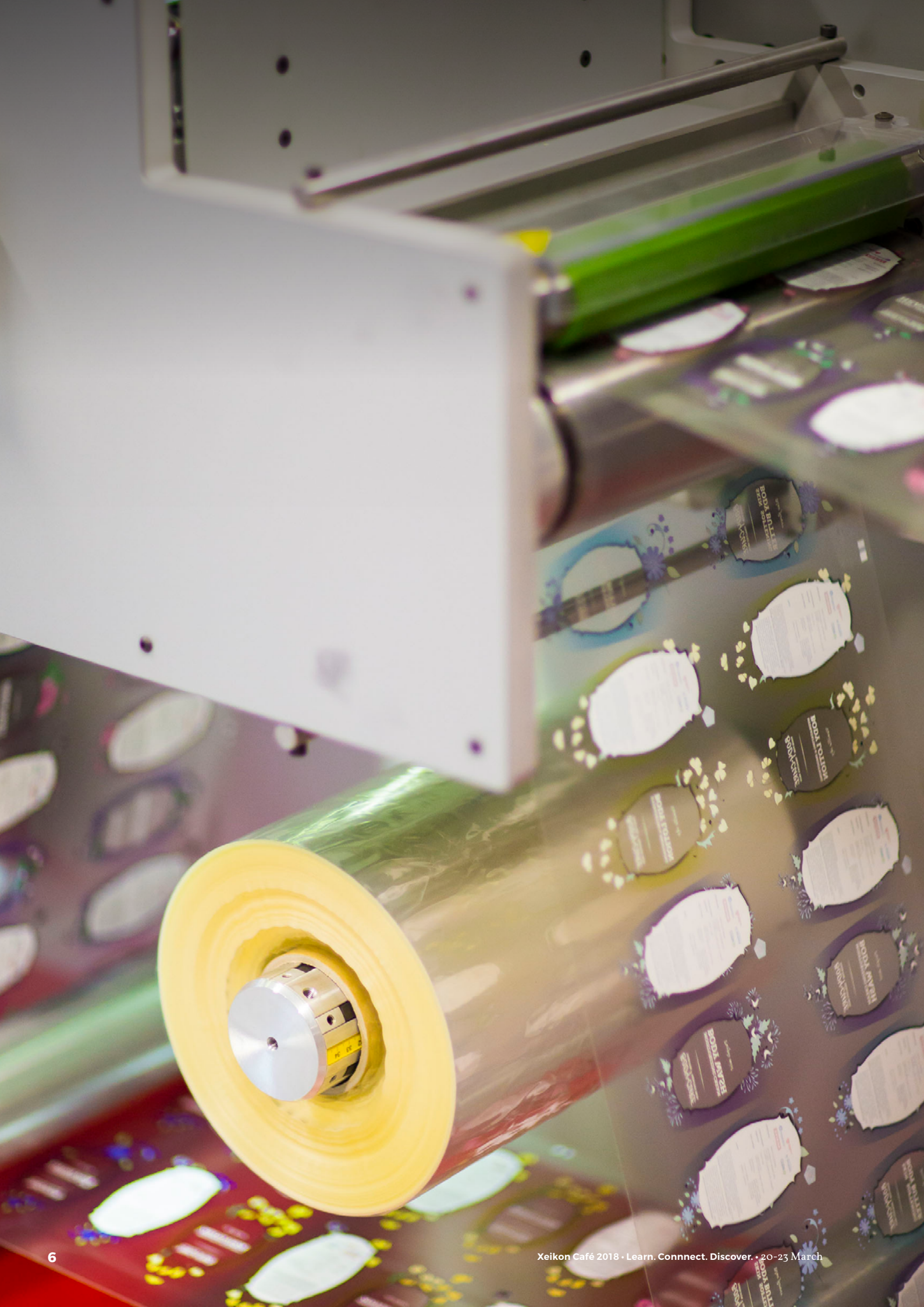
retail, which is demanding a whole new category of transit packaging.

At the same time, there are many more pack versions – of flavours, colours, varieties (i.e. fat-free, sugar-free, gluten-free, low-salt) as well as pack sizes and languages – which means shorter print runs. New Artisan brands are being launched as consumers value fresh, local products, ideally sustainable with good environmental credentials. The established brands react by producing special premium editions, often with campaigns running for a short time in specific markets, sometimes even in conjunction with a movie release or sports event. Retailers will offer products under their own brand, the so-called Private Labels, which are regularly refreshed and changed.

Consumer demands for healthy lifestyles are driving brands and retailers, along with greater convenience and sustainability. In

Europe, there is much discussion about the changing preferences of the Millennial Generation, who grew up in the Internet Age and is now active in the workplace. At the same time, there are more of the affluent older generation of consumers. Packaging must take the demands of these very disparate groups into account, along with all the other groups who are likely to buy a product.

There is growing legislation on packaging across Europe, covering the information and even legibility (minimum font sizes) and presence of braille information. Food must clearly identify the ingredients and presence of potential allergens, while there is pressure to develop a simple method of identifying fat/salt/sugar/allergen content. Prescription medicines must be clearly identified with the location and batch of manufacture to allow easy tracking and traceability in the fight against counterfeiting.



The net result of these drivers is increasing:

Demand for faster time to market for new and changed designs

Demand for short runs and multiple versions

Versioning capability, to personalisation and premiumisation

Improved visibility across supply chains

Innovative packaging decoration methods allowing brands to engage with their customers in new ways

All these can be addressed through the use of digitally produced packaging, and the growing array of digital print providers is helping solve customer pain points and delivering innovative new campaigns for brands and retailers. As well as personalised and versioned packs, new capabilities are being introduced. Many packs contain QR codes or links to further information on a website. Digital QR codes provide links to a unique landing page that offers new opportunities for the brand. This could be an authentication for a premium perfume or spirit, or a promotion

providing a reward for the consumer – and at the same time valuable information on the consumer and a new measurable touch point for the brand, tracking the individual consumer's behaviour.

In response to the Internet unboxing craze, more brands are printing the inside of a transit pack and sharing the recipient response on social media to create positive feedback for the brand. This content can be tailored to the recipient with digital print, for example the photobook brand MPix in the USA. A coffee company in Brazil printed the front page of that day's newspaper onto packs of coffee to demonstrate the freshness of the product. There are examples of companies placing messages of support or unique images onto packs in support of charitable good causes. These developments are broadening the functions of packaging beyond the traditional roles of containment, protection and information.

There is no ad-blocker on a pack. Appropriate messaging on a pack or label is a great touch point because it remains with the

consumer over a long period of time in the kitchen, bathroom or household – or even in the hand in the case of a coffee cup or bottle of water. Increasingly, brands are exploring how they can effectively utilise this space, and how digital printing offers new possibilities. There are campaigns linked to sporting events, music festivals, movie releases or even notable historical anniversaries.

The content could be geographically varied for a city or region with different languages, text and imagery. The pack might be personalised if the seller knows the end consumer – a growing possibility for internet retailers and fulfilment services. A brand might support a charitable good cause on a label or pack, gaining approval from the public as a result. As digital printing becomes more established, new methods and innovations become possible. Some may prove to be poor ideas, but others will chime with end consumers and prove to be successful, spawning a raft of imitators and further driving the adoption of digital print methods.

Chapter 2:

Opportunities in end-use applications

Most converters produce a particular type of label or packaging (cartons, corrugated or flexibles) across a range of end-use sectors, rather than specialising in a particular vertical market – although there are exceptions in food and pharma production, which need specific capabilities to meet industry requirements. The required final print quality and physical properties of materials may vary by application. When moving into digital production, a different series of inks and toners will be used, perhaps with substrate treatments, primers and new functional or decorative coatings. More about this is also available in the White Paper ‘No Size Fits All’².

2.1 Food

Food accounts for the majority of all printed packaging, more than two-thirds if beverages are included. There are dry products, liquids and a variety of other forms including ready meals as well as food bought for consumption at home. The single service food packaging sector is growing strongly for items such as pizza, burger boxes and coffee cups. There is fresh and processed produce, frozen and dried food,

and one of the key requirements of packaging is to maximise the shelf-life of the product while providing protection ‘From Farm to Fork’. Clear labelling of packs is a legal requirement in most European countries, with clear nutritional information methods being introduced with the presence of potential allergens and amounts of salt, sugar and fat clearly indicated. The developing labelling requirements are a

driver to digital production, saving the cost of new plates in flexo whenever there is a change.

There may be direct or indirect food contact, and another, highly important requirement is that the pack must not affect the food adversely. There should not be any migration of components from the print or varnish that can contaminate the contents. Ink should not be in direct



contact with the food and small molecules may pass through the film or board after printing, or set-off if a web is rewound or sheets stacked. When a pack is cooked (or sterilised), the high temperatures may cause material to evaporate from a dried ink film. Advances in analytical chemistry techniques mean that potential contaminants can be measured in very small amounts, with parts per billion easily detectable. It is the responsibility of the packaging converter to ensure products are suitable for the end-use. In addition, the legislation covering packaging safety is developing, while leading multinational brands may demand rigorous accreditation to ensure their standards are being met. Food packaging producers usually will need to prove they have hygienic and safe manufacturing environments and will usually provide an accreditation to one of the recognised Global Food Safety Initiative (GFSI) programs. When moving to digital production, the packs will need to be tested.



When it comes to food safety, dry toner generally performs well. The pigment is dispersed in a polyester resin, a high molecular weight polymer that will not migrate, and there are no volatile materials. Packs still need to be tested and approved. The toner or ink provider will provide a certificate covering the materials used in the formulation and (for suppliers who are serious, they supply specific constructions tested in specific environments) to make sure there are no ingredients on the various exclusion lists in operation. More information is available in the White Paper 'Food Safety and Digital Printing' ³.



2.2 Beverages

This sector comprises water, milk and soft drinks, as well as adult beverages such as beer, wines and spirits. There may be specific legal requirements, e.g. alcohol labelling requirements not to feature anyone under the age of 26 in many countries. They are sold in glass and PET bottles, liquid cartons and metal cans. There may be boxes and multi-packs, ranging from luxury premium spirits to mass market beer and soda packs.

Technically, wine and spirits labels are among the most challenging for any label converter. They require printing technology that is capable of delivering high-quality labels and packs on a wide range of substrates with different embellishments. A broad range of substrates is used, from synthetic, coated paper to challenging natural, textured and structured papers. The latter are porous materials, which are challenging for liquid printing processes and suited to dry toner, which does not require any pre-conditioning or primer prior to printing. Fine detail is demanded and image quality is a critical factor with smooth low-build results important.

The growth in micro-breweries and artisan producers of gins, vodkas and spirits has driven adoption of digital production, in order to produce small quantities of high-quality labels. Many small producers are reluctant to pay the cost of an analogue set-up



Embellishment

In 2018, there is a clear trend toward embellishment, adding features to labels and packs that provide a high value-added 'Premium' result. Spot varnish, white, holograms and foiling are common processes for labels to boost shelf presence. This is particularly important in spirits, where labels and boxes may be very complex with metallic effects from printing and foiling, varnishing and coating and various special effects to provide the premium product effect.

Due to the absence of solvents, fuser oils or other liquids, dry toner is compatible with any kind of process (spot varnish, cold foil, hot foil). Increasingly, embellishments may be digital, using inkjet to print spot varnish and the adhesive for cold foiling. Xeikon's Fusion technology is a solution of digital combination printing, combining colour digital printing with digital embellishment in a single, one-pass production process. A print job is dropped into a hot folder, RIPped, and the different channels are sent to the relevant Fusion modules, with no manual intervention. Because every embellishment module is digital, every single design element can be made variable or personalised, which opens up huge opportunities for new applications.

and tooling for a label. They often take advantage of a templating web-to-label system where they can upload designs into standard shapes to use existing dies.

The no-label look, a capability provided by clear-on-clear label materials, has transformed premium beer labels into a strong growth market for the self-adhesive label market, at

the expense of wet-glue labels which lost a significant market share. The growth of clear-on-clear adhesive labels is driven by the fact that they provide more capabilities regarding aesthetics, variation in look and feel, etc. For premium beverage labels, good white opacity is required with toner and inkjet steadily improving the result to the level of traditional screen printing. The

opacity of white is determined by the concentration of pigments, pigment particle size and the layer thickness that can be achieved. Dry toner scores well on both accounts, as the technology allows for thick toner layers. White dry toner combines the highest pigment load with the largest particle size, offering white layers of an opacity that is higher than that of liquid toner in a single pass.

2.3 Personal Care (Health & Beauty)

This sector includes cosmetics, fragrances, perfumes and personal care items, such as soaps and toothpaste. Many will be used in the bathroom, where soap, water and oil resistance are important as high humidity is common. Many labels are produced with synthetic substrates, where white or clear BOPP or PE and adhesion are critical. Very often these labels are varnished (or reverse printed on clear substrates) to avoid finger marking and also squalene resistance is important. Finally, high white opacity, usually base printed, is vital.

Many of these products are premium and luxury. They require high image quality, particularly for smooth flesh tones highlighting skin health, meaning quality is paramount. Subtle pastel shades are widely used, and colour accuracy and consistency are critical. Synthetic substrates are most common for cosmetics labels.

Due to its chemical affinity, dry toner is a great choice, as it can be used without any coating or primer. UV-curable inkjet requires a corona treatment, usually

necessary to ensure a high enough surface energy level to optimise the spread of the ink before curing.



2.4 Pharmaceuticals

In pharmaceutical packaging production, there is an industry-wide requirement, PS9000, that dictates the requirements for suppliers. There are over-the-counter medicines, prescription drugs and medical devices. For the latter, accurate spot colours are important, as they are used by chemists and hospital drug dispensaries to identify a drug. Text quality is absolutely vital to ensure there are no errors on a pack, for example in the dosing of a medicine, which could lead to catastrophic consequences. Labels, cartons and blister packs will typically be inspected prior to dispatch. Labels need to be clearly legible for the end users,

down to even the smallest letters and numbers, since they are increasingly older people with potential vision defects. For the label converter, this means an investment in high-resolution printing technology.

Brand protection and anti-counterfeiting are important considerations, with European legislation demanding full track and trace capability on every pack with date, batch and factory identification. Other protection measures are equally important, such as micro text and raised images with fine details and certified substrate.

In combatting counterfeit labels and packs, converters and brand owners have three broad strategies:

Impart counterfeit deterrence, product authentication and brand protection technologies into the design of the label or package from concept

Combine technologies to provide the most effective overall brand protection solution

Make each individual package or label unique, which is driving more digital production



2.5 Chemicals

This is a broad sector including bulk chemicals (often supplied in totes and 200l barrels), automotive oil, bleach and detergent for commercial or household use – sometimes referred to as ‘under the sink’ products. Resistance to chemicals, oil and water is important, meaning good adhesion and print durability. Cross-linked polymer systems are generally highly resistant to chemicals, explaining the use of UV-curable inkjet in this sector. Lightfastness is important for high-quality labels as products may remain on a store shelf or in a warehouse and are often exposed to direct sunlight. The choice of print consumables, inks or toner, will determine the primary lightfastness, and care must be taken as UV light affects the magenta and yellow pigments in a process set – be aware, this differs from consumable supplier to supplier. This may be moderated

by adding protective UV layers on top of the label as varnish or laminate.

The Globally Harmonised System (GHS) of hazardous materials requires potentially dangerous chemicals to be clearly labelled in the same way across the world. GHS demands a standard warning symbol, replacing the previous orange requirement. This can be easily printed out of the digital process colours and has boosted the adoption of digital printing.



2.6 Performance and Durables

A wide range of packaging and labels are used for applications from electronics and white goods to bulk building and construction materials. The packaging and labels need to be durable with a fairly long shelf life, and be able to stand the test of time. They must often endure extreme temperatures, mechanical stress, exposure to chemicals and UV light.

UV inkjet is widely used in label



production of durable labels. Dry and liquid toner images are polymers fused to the substrate, so when heated, they can melt

again. Applying heat-resistant lamination remedies this issue. UV-curable and water-based inkjet are heat resistant: the polymers formed after the complete curing of the UV-curable inkjet have a high melting point. In water-based inks, the concentration of polymers on the substrate surface is too low for the ink to melt and becomes sticky. Moreover, UV inkjet inks are resistant to mechanical stress after being exposed to UV light.

Chapter 3:

Changing routes to market

Brands are seeing increased competition, including from the me-too private label sector. The market share of private labels has reached an all-time high in nine European countries, according to the Private Label Manufacturers' Association (PLMA).

This association says that retailer brands in 2016 held a share of 30% or higher in 15 of the 20 countries that it is tracking, and seven countries had private label market shares of 40% or higher. In 2016, the share reached record highs in Germany, Italy, the Netherlands, Belgium, Poland, Austria, Sweden, Norway and Denmark. The biggest market share increases were posted in Austria, which was up 2.8 points to 43%, and Germany, up 2.1 points to 45%. Market share in the UK stayed above 45%, as supermarkets expanded their private-label ranges to compete with the discounters. PLMA expects private label penetration to increase in Mediterranean countries as Aldi and Lidl expand their operations in that region.

Many of these own-label products are small-to-medium runs which are well-suited to digital press production. Retailers are also exploring ways of adding varieties to make them more appealing to local consumers by providing geographical varieties, again

well-suited to the digital press technology. While it is unlikely that there will be high-quality printing of packs or labels in-store, it is certainly feasible for a major retailer to employ the technology (possibly as a 'hole-in-the-wall' facility operated by an experienced packaging or label converter for the retailer) at one of their regional distribution centres. They could produce versioned packs and labels on demand, with labelling before shipping to store for some own-label products.

In 2018, traditional bricks and mortar retailers are under pressure due to the rise of Internet click and order alternatives, which are increasing their share of the total retail expenditure. According to the Centre for Retail Research in Europe, countries with the highest online shares of their internal markets in 2017 were the UK (17.8%), Germany (15.1%) and France (10.0%). Other countries with high market shares are Sweden and The Netherlands. Germany has had the fastest-

growing online sector for the last few years, but in 2017 its 16.4% forecast growth was exceeded by Spain (+19.2%), Poland (+17.2%) and the Netherlands (+17.0%).

E-commerce sells a wide range of branded and bespoke products, including second-hand goods and many of the items are delivered in special mailers and transit packaging.

These may be branded or plain with customer address labels, but they are starting to change as sharing unboxing videos continues as a YouTube phenomenon and companies add personal messaging onto the pack to boost consumer engagement. There are powerful players, particularly Amazon, who has a track record of innovation in developing new retail experiences and grabbing market share through heavy investment. Amazon has huge resources: in 2015, its market capitalisation overtook Walmart after 18 years



as a public company, but it took only two more years to double it while maintaining strong growth. Revenue in the third quarter of 2017 reached \$43.7 billion, which is up 34% over the same period in 2016. It is increasing its warehouse space and is looking at new packaging methods. It holds patents on 'Optimisation of Packaging' and in 2017 filed a patent for an on-demand manufacturing system designed to quickly produce clothing (and other products) after the customer order is placed. The computerised system would include textile printers, cutters and an assembly line, as well as cameras designed to snap images of garments that would provide feedback on alterations needed for subsequent items. In order to increase efficiency, the goods would be manufactured in batches based on factors such as the customer shipping address, the patent says. It is not a huge leap of imagination to see they are considering on-

demand packaging solutions in spite of their huge warehouse floor space.

Digital print can fit into the e-commerce space very well. Branded and private label products will still require the same high-quality packaging (probably more than in-store as someone else has picked them on the buyer's behalf), as will products from new emerging brands which need to impart a professional impression. Digital production systems, providing flexibility and ease-of-use, will be important in grabbing a share of this potential market.

As the consumer is known, there is an opportunity for the e-commerce provider to supply more through print-on-demand, improving the user experience. This could include connecting with individual consumers in the cyber world, in competition with brands selling directly. Packs can

even be made interactive. There might be a QR code that links to a website, perhaps providing more information or to make a connection with the consumer.

Finally, there are opportunities to provide labels and packaging in new ways by new routes to market – easy ordering and access to more customers for a converter through the adoption of web-to-label or web-to-pack integrated workflows.

It may be new entrants into packaging and label production who take this approach, looking to apply the norms of other business sectors. In commercial print, next-day delivery is common, and a range of automation tools that totally re-engineer the supply chain are being used. It is safe to expect that some of these will come into labels and packaging.

Shorter runs
- trials

STRATEGY

01

Lean manufacturing
- Optimizing
production

STRATEGY

02

Benefit from inherent
digital press advantages

STRATEGY

03

Invest in extra
tools and equipment to
exploit digital printing to
the maximum

STRATEGY

04

Chapter 4:

Strategies

For every business, no matter the size, developing a strategy is vital. The purpose of strategic planning is to set the overall goals for the business and to develop a plan to achieve them. The outcome should provide sustainable value to customers and a competitive advantage to the business by exploiting core competencies in the target markets.

There are several key advantages for business owners and management to develop a medium- to long-term strategy, moving away from the immediate day-to-day pressures to develop the business. The strategy provides a progress measurement tool, alongside the monthly or yearly operational results against the planned budget. Looking at how well the business performs against the strategic objectives provides a more fundamental examination of the overall performance beyond purely financial measures, for example how the company is helping customers achieve their business goals.

A well-executed strategy will help the business clearly define its skills, strengths and weaknesses in the market sectors it is operating in. It is critical to make the most of any competitive advantages while working to eliminate capability gaps. It informs a business of the skills and capabilities that are needed to succeed, whether through training and development or investment in new equipment and personnel.

It identifies where to allocate the available resources, choosing the products, services and markets and assessing the risks associated with each, making sure the limited resources are deployed on the most rewarding opportunities. Finally, in developing a strategy, businesses need to take a considered look at the external environments they operate in. Particularly important is how these are changing and are likely to change in order to be aware of and be prepared for potential shifts in markets. This creates an opportunity to take action before the shift takes place. Identifying and satisfying future customer needs profitably should be the strategic objective.

Buying a digital press is part of the strategy, but it is not the whole solution. The business model of digital printing is different to conventional printing, and it puts a different series of pressures onto the print operation. Converters should conduct a thought-through analysis of the challenges their company faces and the possible opportunities that lie ahead. This could lead to the need of digitising

the production process and bringing a digital asset on board.

When considering an investment in digital production, it is highly important to choose which strategy to pursue and define the appropriate implementation plan. There are four basic strategies that label and packaging printers and converters might follow when moving into digital production. It is important to remember that there is no absolute right or wrong. Whichever route is chosen, there will be consequences in terms of the level of investment needed and the impact on the established business in terms of sales process and targets with tasks of individual personnel going beyond just the print room. Over time, the strategy can also evolve as the organisation matures.

Strategy 01

Using a digital press for shorter runs & trails – flexo replacement

This strategy is about buying a digital press with finishing system (or using existing analogue finishing) to handle more short-run jobs. By providing personnel with basic operator training, the company can continue to sell to traditional print buyers in procurement operations. Sales are made in conjunction with flexo and/or litho offerings, and the appropriate equipment can be used to optimise production costs while meeting delivery dates.

Putting short-run jobs on a digital press is a cost-effective method of printing. It has a beneficial impact on any analogue equipment by removing short-run jobs from flexo or litho presses without the time and cost of producing plates. This strategy might be chosen in response to changing demand patterns from established customers looking to widen the range of products they supply, with many more SKUs which become uneconomic when

new flexo plates are required for the varieties – particularly when reprints are needed with changing volumes. Implementing a digital production method eliminates the need for plates and allows a different product mix to be produced efficiently and cost-effectively. If customers include micro-businesses, using a digital press helps reduce the

initial set-up cost, getting rid of the traditional 'Minimum Order Quantities' associated with litho and flexo. It opens up new market opportunities. Companies can promote their short-run capability and sales personnel can go after any job, establishing new relationships with small businesses who may become major players.



Strategy 02

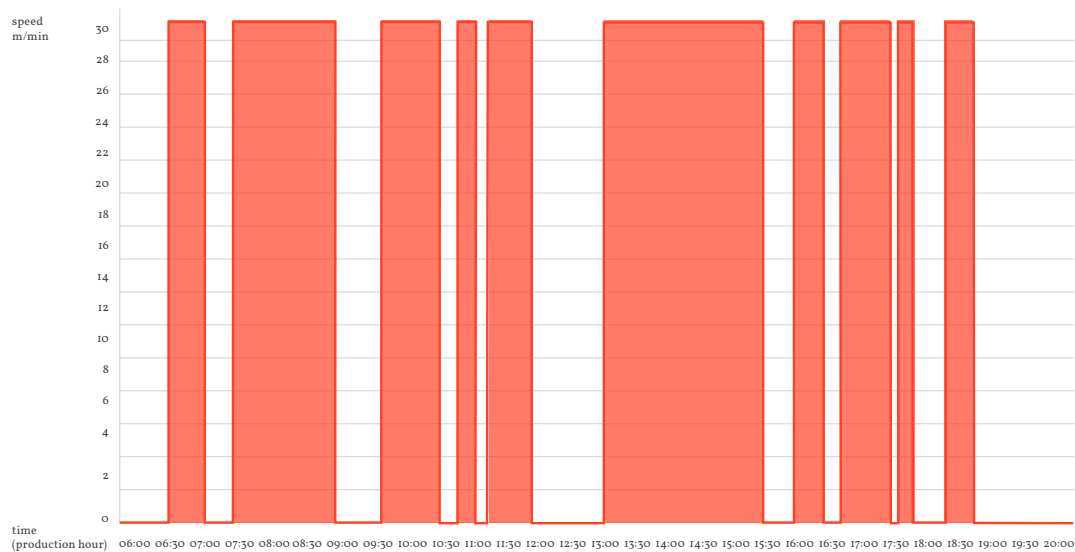
Lean manufacturing – optimising digital production to make longer runs competitive

In this case, the company will invest in a top-line digital press with converting unit, and integrate it into a workflow controlled with an MIS. There will be services to ensure

consistent production, such as colour management and artwork optimisation to avoid press downtime to correct a job file. This will link to a low-touch automation in prepress to prepare

artwork and impose jobs. There will be high-level specialist training, in-press support as well as operation. Effort is made to optimise the digital press investment, and maximising

Printing press utilization rate



the capacity allows the company to be cost-competitive. A 'Lean Manufacturing' approach is followed to maximise available up-time, reduce waste and minimise non-productive time. There will typically be Key Performance Indicators (KPIs) that are measured, and targets set to improve performance will be shared and used across the operation.

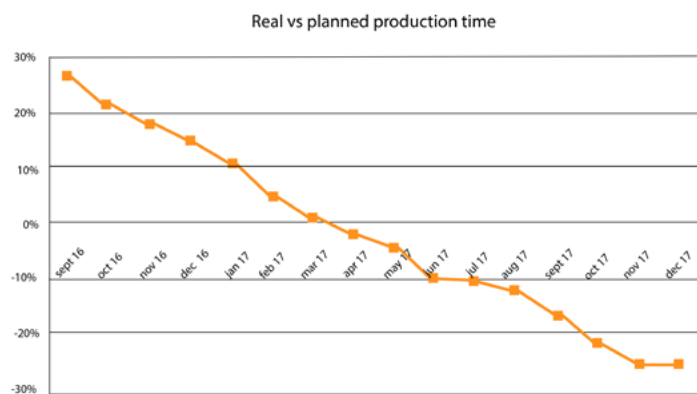
The cost of a job run on a digital press is made up of the substrate,

consumables (inkjet inks or toners), and machine time and labour, including any prepress and data preparation. Increasing press utilisation reduces the unit cost of production. A higher monthly print volume means the monthly capital, direct labour and support cost are amortised across more prints so those components are reduced.

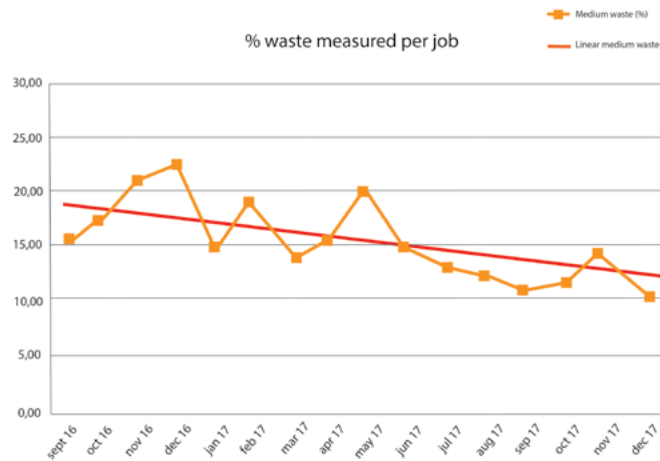
Selling will be to the traditional print buyers and procurement function, using pricing and fast

turnaround as key competitive positioning. The strategy is to maximise the press productivity. There are many approaches, but standardising the method of operation through the use of a limited range of materials and sizes that work well and can give bulk purchase discounts helps manage the cost. Integrating the press with an MIS and workflow provides major benefits, smoothing the flow of jobs to the press. It will use advanced colour management to optimise quality and an end-to-end workflow to reduce manual intervention in prepress and finishing.

Eliminating paper production control takes out time and cost in administration and potential manual re-keying errors. Users have found they can gain significant cost and time savings through optimising production, making digital increasingly competitive for medium and



even long-run jobs against flexo and litho. Optimising the overall operational effectiveness of the press (set-up, throughput, minimising waste) by developing appropriate KPIs is a fairly straightforward exercise – requiring though the right culture and leadership to make it successful and sustainable. Companies will approach customers with the message “We print all run lengths cost-effectively”, while not specifically promoting the digital capability.



The success factor is high-volume digital production leading to

lowest unit cost of production by fully utilising the asset.

Strategy 03

Benefiting from inherent digital press advantages

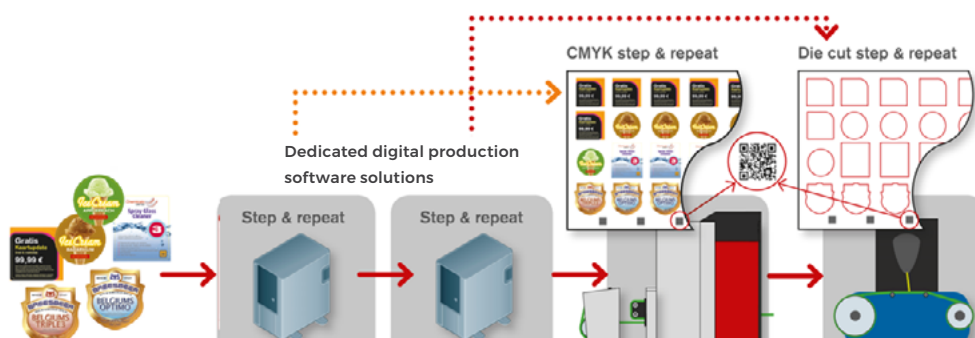
The digital press is purchased with finishing and a range of specific functions and tools to maximise the abilities, including full variable data capability and job ganging to optimise substrate use. It is the choice of the company to integrate these capabilities in his offering and use them to his advantage, or choose not to.

There will be investment in high-level dedicated training, producing highly skilled specialists in the business. The sales team will highlight the benefits of the digitally enabled capabilities into the marketing

function for customers, offering innovative ways for business development managers to boost their product offerings. This could be providing a unique number or code on each label for security or track and trace capability, or there could be full image variability to provide a range of different imagery within a run to promote interest and engagement with consumers.

The company will provide complex solutions for labels and packaging that allow his customers to do more. For example, there may be integrated

digital finishing, using laser cutting that enables many short-run label jobs to be produced effectively, grouping them by substrate and printing a control mark to call up the cutting pattern during a run, with no requirement for tooling or downtime. There is maximum flexibility of print and finishing designs, with no wasted material or downtime when changing jobs. To get the best out of this production set-up, laser finishing can add flexibility to mixed designs, maximising flexibility while eliminating cost and delay.



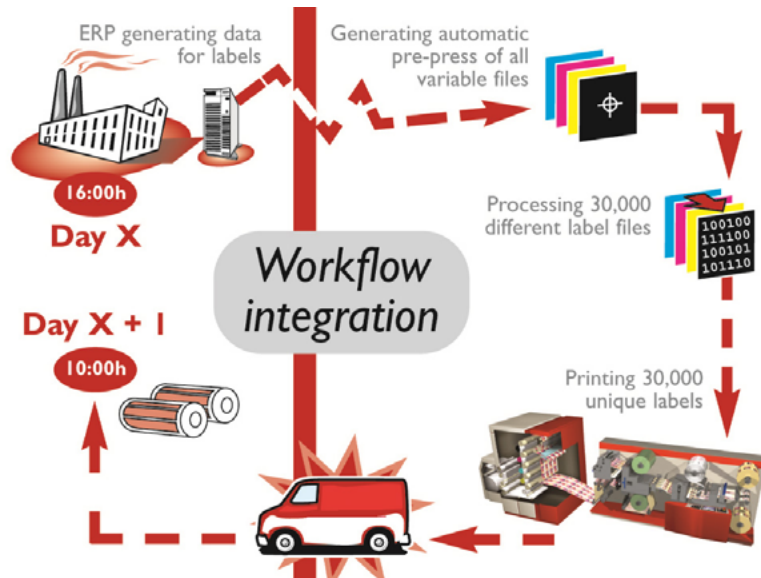
Strategy 04

Investing in extra tools and equipment to exploit digital printing to the maximum

Some companies have pushed the envelope of digital press operation way beyond the norm. This fourth and last strategy is to provide added-value services and products that simply cannot be manufactured on an analogue machine. This will usually involve printing variable data, in numbering, coding and full variability of images while the traditional routes of ordering are re-engineered to provide benefits to the customer. The key point is the solution addressing a pain. It are the label and packaging that allow the customer to become more efficient – the label and packaging are the vehicle in delivering an advantage that helps the customer. This value should be reflected in the sale price, and the relationship goes way beyond just selling a printed product.

Beside the digital press, there will be investment in additional software tools and services, while the company will develop expertise in other domains to build an added-value service around labels and packaging. This is a long-term system sale to marketing operations and business development managers at customer sites. The company works with its customer to make it easy to order and develop complex products that exploit the full capabilities of a digital press.

There are many examples forward-thinking companies who



provide speciality logistics labels, and develop a bespoke solution for a customer with a specific need.

This is how it could work: the customer provides a download from its ERP system each night of the jobs they will be handling the following day. The converter receives this file and automatically generates the artwork for the jobs, including different designs and unique codes on thousands of individual labels, which are then printed and finished for delivery the following morning. This allows the customer to eliminate stockholding of these labels, and they are provided in the correct order to maximise efficiencies at the distribution company.

This type of value-adding business process re-engineering allows packaging and label converters to provide significant benefits to their customers, using data management with digital

print and finishing to solve major pain points and help customers improve their performance.

Usually, the cost of the label or pack is not a significant component, and the customer is happy to pay a premium, while partnering with the converter to provide further improvements.

Companies are exploring how they can use digital presses to let customers benefit from 'Big Data' with suitable analytics to provide new opportunities way beyond the scope of a packaging producer. They are gaining expertise in developing APIs (Application Programming Interface) code that allows the digital press workflow to communicate with a customer's MIS automatically. This will allow just-in-time response to print bespoke packaging and labels on-demand, opening many new valuable opportunities to become an important strategic supplier.

Chapter 5:

Conclusion

There are many reasons to invest in a digital label or packaging press. It is important to have clear business reasons for doing so, to build a sustainable customer base and continuously improve the level of service offered as business environments change.

There are many factors impacting packaging and label converters. Some of the most common factors reported by them include, among many more pressures on individual businesses:

- “My conventional presses are not cost-effective due to waste and changeover time”
- “We have to interrupt the production planning at least once a day for an urgent job”
- “We have more short-runs, with low value”
- “My customers are demanding shorter delivery schedules”
- “We need quick artwork changes”
- “Demand for variable content – numbering, coding, text and images – is required”
- “Our production process needs to be more robust for fast-changing requests”
- “We need to optimise our conventional production”
- “I can’t compete on price for short and medium runs anymore”
- “My customer base is not loyal”
- “My added value is not high enough to make profits”
- “I am OK in my present market but what more can I do to grow?”
- “Small companies are demanding no minimum order quantities”
- “My waste levels are too high”
- “How can I be more sustainable”

Most important to remember is that there is no prescriptive answer and there is no wrong answer. There are, however, some issues that should always be considered:

What are the specific business requirements? Look at how these are changing and how they will impact the decision over the next two to five years. What are the implications beyond the printing department – in design and prepress, finishing and dispatch? Make sure the people involved know the plan and provide the training that will get their buy-in.

Explore new market opportunities, perhaps in partnership with a customer, to develop new solutions. Think of handling many more SKUs effectively, or to produce very short-runs economically, to reduce time-to-market for new designs and faster re-ordering, or to provide new features to fight counterfeiting.

As the market conditions change and the digital press can handle more short-runs, consider the implications in selling and order processing. Moving from 5 jobs per day to 10 will be broadly manageable, but what happens when 200 are needed, or 2.000? The new business model demands different thinking and new solutions, with new skills and expertise that could be very useful (and valuable!) to the right customers.

Whatever the solution chosen it should be as efficient as possible

Digital printing of labels and packaging can offer economic and service advantages over analogue alternatives to buyers. Thousands of successful installations and the ever-rising share of digital printing in labels and packaging are testament to this. The problem for many companies is that the range of important factors they have to consider is much wider than just deciding whether a production line should be in-line or off-line. Developments in digital finishing (die cutting,

creasing, gluing) will change over the life of a press, making it impossible to determine what the ideal integration should look like. Software advances in control and MIS are developing rapidly with new apps and links to the digital world opening new opportunities. Developing low-touch / no-touch automation from order receipt to delivery will improve efficiency, including artwork receipt through to proofing, colour management and imposition to printing, finishing and dispatch.

It is not easy to understand the breadth of choices that are available, never mind make the best decision for a particular

business. This is the value of the Xeikon Café, an educational industry event that provides visitors with access to nearly 40 leading suppliers who are enabling packaging and labels to change. Its goal is to help people understand the new opportunities digital production can bring to their businesses, hopefully inspiring them. It is an excellent opportunity to network with the leading companies who provide new services and are going to demand new services. And you may find there is a solution to your business, and your customers' problems!

About the author

Sean Smyth acts as a consultant in print and packaging, either independently or on behalf of Smithers Pira, and as a journalist for the trade press. He is technically very strong, helping companies across the supply chain make money through the appropriate implementation of technology. He has spent over 30 years in the industry in senior technology positions for a variety of print businesses, with their customers and suppliers, in both hands-on and consultancy roles.

He has written many market studies for Smithers Pira on future



print markets and technologies, including The Future of Global Print Markets, The Future of

Transactional Print and The Future of Inkjet Printing. He regularly speaks and acts as Chair at conferences on printing technology. He edited the Digital Labels & Packaging magazine from Whitmar Publications, for whom he acts as Group Technical Editor.

Sean holds an MBA and is used to providing strategic advice for publishers, print companies and suppliers (equipment, consumables and software) across the print and publishing supply chain. He helps them make money.

Xeikon Café Partners



XEIKON INTERNATIONAL BV

Brieversstraat 70
4529 GZ Eede
the Netherlands

T. +31 (0)117 37 50 20
F. +31 (0)117 37 50 21

www.xeikon.com - info@xeikon.com

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