



WIDTHWISE 2018

An Image Reports publication

The eleventh annual survey and report
on the state of the UK and Ireland's wide-format print sector



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Contents

Welcome to Widthwise 2018

So you want to know where your business is heading! Well, this report should give you some clue by painting a picture of the large-format digital inkjet print market. It's a paint by numbers kind of job - now in its 11th iteration we've used the data collected from over 150 UK/Ireland-based PSPs in our independent annual Widthwise Survey as the basis of this sector analysis.

Within these pages you'll find easy to digest graphic representation of the information supplied by the UK and Ireland's large-format print companies, together with written explanation and associated editorial commentary on what the stats show about the sector now - and how we expect to see it develop.

Also included is a report from consultancy Lightwords, using its own sourced facts and figures from hardware suppliers so that you can be sure of seeing the whole picture.

Hope you feel as confident about growth potential after reading this as I did pulling it together. If there's anything else you'd like me to draw in to the 2019 survey and report let me know.

Lesley Simpson
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04 Key findings

A quick reference to the main outcomes from the Widthwise Survey 2018.

Business Section:

10 Widthwise Survey: business findings

Findings suggest that the case for large-format print is being capably made in a rapidly changing world..

20 Brexit

...and the thorny question of what its impact will likely be on players in the large-format print sector?

22 Going for growth

Two key print service providers share their strategy for business building.

Technology Section:

28 Widthwise Survey: technical findings

Who's spending what, where, when and why?

32 View from the vendors

Lightwords provides analysis of the 2017 figures collated from hardware manufacturers and OEMs within the large-format inkjet sector.

36 On the radar

In 15 - 20 years AI could be steering your PSP. Don't believe it - read on....

38 Supplier Q+A

Key manufacturers give their take on the direction of technological development and on the considerations PSPs must take into account.

Environment Section:

44 Widthwise Survey: environmental finding

Plastic: are large-format PSPs going to do much about its use?

46 The circular economy

What are you doing to break the cycle of make, use, throw away?



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Widthwise 2018: in a nutshell

There's nothing like a trade show to focus the mind on investment, but this year many of you had made your mind up about which new large-format printer to buy well before Fespa 2018, even before the earlier Sign and Digital UK - and the answer was 'none'.

According to data from the 151 large-format orientated print companies that in January/February responded to our annual Widthwise poll of the UK/Ireland's large-format PSPs, almost half - 47.02% - said they did not expect to buy a new digital wide-format printer in the next two years (37.09% did). That's the first time in the survey's 11 year history that we've seen that balance. Last year the aye's and nay's were equally weighted.



76.82%

expect to grow their wide-format specific turnover in 2018 (23.18% do not)



74.83%

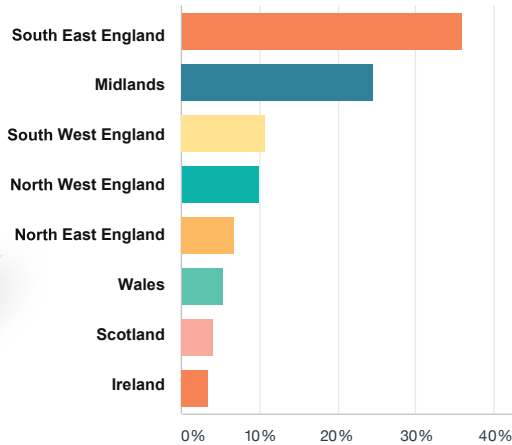
said they think their businesses will still be involved in large-format print in 2028 (25.17% said they don't)

What's more, 35.10% polled this time around said they had a zero spend on any equipment/products right across their business in 2017 and expect that to be the case in 2018 too - 28.81% flagged up a zero spend in a two year period across the whole of their business when polled last spring.

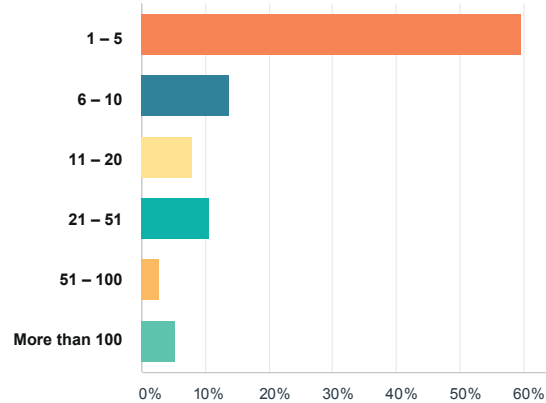
However, a slightly higher percentage this year is actually expecting to invest more in total across their business. 34.44% said they expect to spend more in 2018 than in 2017 - last time 32.10% said they would invest more in total over a 12-month timeline.

So who's doing what, where, and why? For the answer you need only to delve deeper into this report, where you'll find a full analysis of all the survey data - sectioned under business, technology and environmental headings - and with supporting editorial features highlighting some of the main trends and developments. But, for those of you eager for the bare bones overview, here goes.

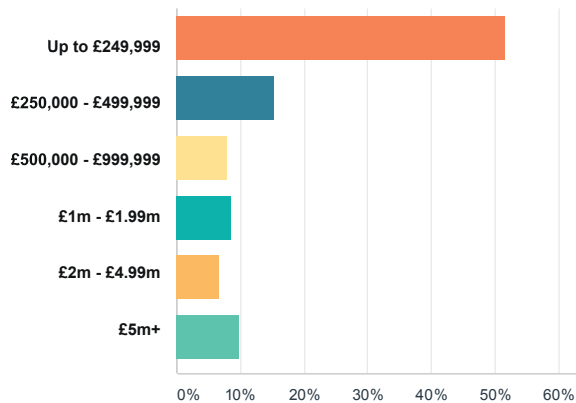
Q2. Where is your main business based?



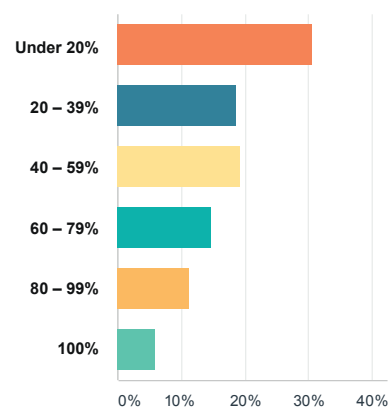
Q3. Number of employees in your company



Q4. What is your company's total turnover?



Q5. What percentage of your turnover is wide-format digital print?



Bear in mind the shape of the survey sample - only PSPs from within the UK/Ireland and involved wide-format digital print were invited to provide data for this 11th annual Widthwise Report. 59.60% of the responding PSPs have five employees or fewer (5.30% have more than 100), 51.66% have a turnover under £250,000 (9.93% over £5m), and for 30.46% large-format print is under 20% of their total turnover (5.96% class it as their total turnover).

Of the 151 respondents, 65.56% expect their turnover from wide-format print to increase as a ratio of their total in the next two years - only 1.99% expect it to decrease (last years those figures were 62.55% and 4.53% respectively). A whopping 76.82% also expect to grow their wide-format specific turnover in 2018, though that's slightly down on the percentage (79.01%) that in 2017 said they expected it to grow over the course of that year.

When it comes to wide-format margins, 44.37% of those polled this time said they saw an increase in the previous 12 months (41.14% said that in the 2017 poll). Asked how margins in the sector compared with other parts of their business, 43.71% said they were better, 46.36% about the same, and 9.93% said worse - a close reflection of the last stats.

So how do PSPs feel about business? Almost half (49.67%) said they were confident of growth, another 39.07% said they were concerned about business prospects, but less so than they were in 2017, while 11.26% said they were more anxious than they were last year.

39.07% said that looking ahead five years they are very optimistic, another 35.10% said mildly optimistic (11.26% mildly pessimistic, 0.66% very pessimistic).

Then there was the Brexit question and what impact PSPs expected it to have on their own business. As you might expect, the vast majority

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(68.87%) said they are unsure. 20.53% expect it to be harmful, while 10.60% think it will be beneficial. Though the impact of Brexit was listed as a concern for business in 2018 and beyond by 39.07% of those polled, it was the price of supplies that worried most (54.30%) people.

In terms of priorities for the current year respondents were asked to rank a number of options. You guessed it - top priority for most (41.61%) was growing turnover, while 16.78% said improving margins was priority number one (33.64% and 20% respectively in the 2017 poll). Improving return on capital employed was only top for 2.03% and even finding new customers was only top for 12.08%, entering new markets 6.04%... you get the picture.

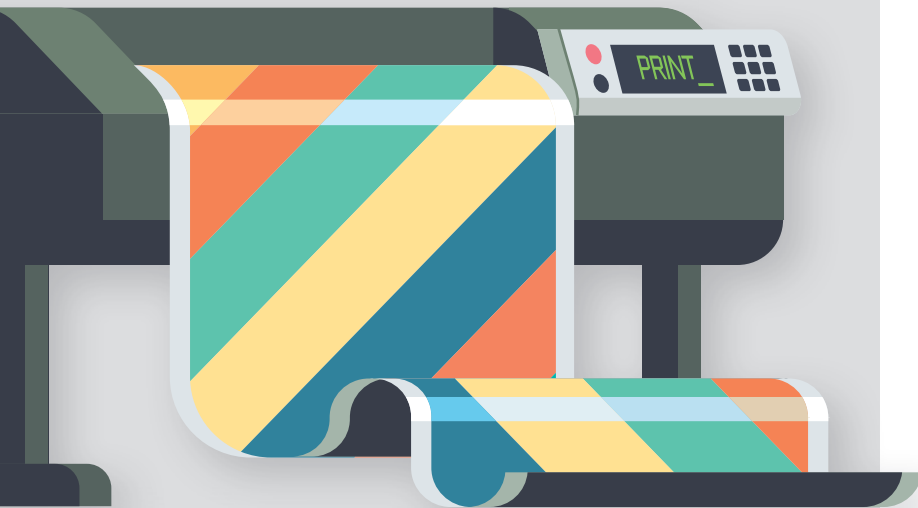
And how is turnover going to be increased? Well by offering creative design services it appears. Almost two-thirds (60.26%) of polled PSPs said they expect to add this service to their offering within the next year - even more that said the same thing in 2017 (48.97%).

Asked where they would likely invest for their wide-format business over the next two years - beyond large-format printers - design software



54.30%

said their biggest concern for business in 2018 and beyond is the price of supplies



47.02%

said they do not expect to buy a new digital wide-format printer in the next two years. (37.09% said they plan to. 15.89% are unsure)

topped the board (15.23%), significantly ahead of that hot potato, workflow software (8.61%). Other software (MIS, W2P etc.) and finishing hardware garnered little attention.

Overall, 65.56% said they expect to spend less than £20,000 in wide-format technology over the next two years. Where money is being spent, the largest proportion (22.5%) said it would be to increase capacity.

Of the 37.09% that said they would look to buy a new digital wide-format printer in the next two years, 22.50% said a solvent printer was on the cards - a bigger percentage than those looking to buy a latex machine (21.25%) or UV flatbed (another 21.25%). Textile printers? A mere 2.50% had them on their shopping list.

Asked whether they have invested in Industry 4.0 technology, practically no-one (3.31%) said they yet had. What's more, of those that said they had not done so already, a big fat 0% said they plan to do so in 2018.

So will those polled in 2018 still be in wide-format print in 2028? Three quarters (74.83%) said yes, the other quarter (25.17%) not. Which will you be? ●



Taking steps to prepare for the future

With the EFI VUTEk printer, Ateliers Cassandre can now claim to be a leading sublimation printing company in France, and even in Europe.

One of the French leaders in event printing, Ateliers Cassandre, in Wissous, an inner suburb of Paris, specialises in wide and very wide format digital printing on all media. "My father started the company in 1995", recalls Clément Asnar, the current Managing Director. "We are stand designers who converted to printing and more specifically, events. To keep the business moving forward and to sustain it, we had to come out from behind the stand and look beyond it."

Over seven years, Ateliers Cassandre has become a 100% digital print provider. The company has around fifteen employees and today offers a huge range of print solutions: exhibition display stands, signs for shops, banners, largescale canvasses etc., for events, trade shows, interior decoration, businesses and construction. "Advertisers are increasingly in search of a 'great idea' that will place them in the spotlight, a communication or customised print product that will highlight their competitive edge. Our role is to be a creative force thanks to our technical innovation, to support them with different types of expertise and extremely diverse state-of-the-art machinery which incorporates every type of printing technology: UV, latex, and sublimation."

Offering something unique to customers

Clément Asnar is conscious of trends and

market expectations and in 2017 made the choice to put money back into the company in order to considerably grow the sublimation division. Thanks to the VUTEk FabriVU 520 from EFI, which measures five metres in width, he is preparing for the future of his company. "In an increasingly strained printing market, the growth of a company depends on its ability to stand out, to offer its customers something not necessarily unique, but at the very least unusual and difficult to source from other suppliers. This is what the FabriVU allows us to do," Asnar says. "The aim is for Ateliers Cassandre to quickly become THE print provider in France, in particular with those in the decoration sector and interior designers."

Staying ahead of competitors, Ateliers Cassandre led the way in sublimation by investing in its first 3.20m wide machine in 2015, says Asnar. "It was obvious to me that the future of our profession lay here and that fabric would occupy an ever more important place in printing because of its incredible qualities: a very pleasing look, nicer to the touch than other materials, a print quality with striking colours, its ecological aspect, etc."

After taking time to master this new sublimation technology, Ateliers Cassandre quickly knew how to grow their customer portfolio, to such an extent that Asnar decided to reinvest in the

company in order to grow this area and also to provide a vital backup to secure production. The choice of very wide format, 5 metres in width, is required for the decoration sector's needs, in particular.

The level of investment commits Asnar and his team to carrying out an in-depth study of the materials available on the market and meeting the demanding quality, durability and throughput criteria of his SME. His choice focused on the VUTEk FabriVU 520 from EFI. "The future of the company was committed given the level of investment, so my first criterion was the reliability of the supplier", he says. "EFI's reliability has been established for a long time and the purchase of the Italian manufacturer Reggiani made the difference. Reggiani is extremely well-known on the sublimation market and its association with EFI was an additional guarantee of the quality of the technology both today and its future development."

Ateliers Cassandre's technical manager visited the EFI's Bergamo factory in Italy to see the 5m wide VUTEk FabriVU in production and to discuss specialised technical issues with the site teams. "He came back convinced that we were making the best decision", something which has not waned since, quite the opposite!

An industrial printer

The EFI VUTEk FabriVU is a 4 colour

printer, with resolutions up to 2,400 dpi, it provides four level grey scale printing with 4 pL to 18 pL drop sizes to ensure exceptional quality. "Throughput, ranging from 157 m²/h POS quality, at a maximum speed of 446 m²/h, was not necessarily our top priority but rather industrial design and the long-term reliability of the printer," according to Asnar.

By choosing the EFI VUTEK FabriVU 520, Ateliers Cassandre is banking on sublimation by transfer technology and has therefore also invested in a second calendar. In order to offer its customers a complete service from A to Z, the company has also incorporated a fabric welding bench. The workshop is in the process of industrialisation surrounding the printer which will make it easier to attract and to be able to deal with bigger customers. "The VUTEK FabriVU is therefore fully incorporated into our growth strategy and in my vision for the future of the company, Asnar says. It enables us to scale an important additional market. Today there are very few of us, in France and even in Europe, positioned as specialists able to provide this end-to-end service in this very wide format and with this level of quality."

Since incorporating the VUTEK FabriVU 520, the company has offered an exceptional range of printing processes in all sizes: a flatbed machine with 3m x 2m digital cutting, three 5m UV machines, several 1.60m latex and eco-solvent machines, plus sublimation machines with two calendars and a sewing and welding workshop, and more. "What many customers are seeking is highly proactive suppliers that can always offer them a bespoke solution, however varied their requirements may be", Asnar says. "With the FabriVU, our machinery is now of a capacity to provide A to Z solutions and we have the ability to find the right compromise whatever the difficulty or the peculiarity of the work requested."

Going forwards...

The director of Ateliers Cassandre doesn't lack ambition for his company and he is giving himself the means to grow it. Thanks to the VUTEK FabriVU, the company has a greater presence among

its existing customers as a result of its larger product range. "The growth of the company has always been smooth", notes Asnar. "Our goal is not to flood the market but to continue along our path at our own pace in the spirit of service that my father passed onto me."

Of course, the second step is to open up markets and to establish new contacts thanks to these recent investments. He mentions printing on carpet, for example, "but we are still at the stage of discovering all of the printer's possibilities and there are definitely creative opportunities and opportunities to add value that we aren't even aware of yet."

Every day, new material profiles are produced on an ongoing basis to provide a fully comprehensive and original range of

products and services. "We try to find new added value media to provide arguments to encourage our customers to assess certain sublimation outputs. Furthermore, they are very responsive to and interested in the potential our recent investments offer. It certainly takes time to convince customers and especially to change their habits but we are perfectly equipped to do so!"

Created in 1995 in Wissous, l'Essonne, Ateliers Cassandre was initially a stand designer which converted some years later to printing and more particularly, to events. The aim of this new positioning is to stand out and for this, the SME is investing in wide format digital printing (up to 5m in width) and on all media: PVC, wood, textiles, Plexiglas, tarpaulin, adhesive sheets, etc. The director's vision for market growth commits it to take one step further by positioning itself very early in sublimation, and by offering its customers an alternative with high quality, environmentally friendly printing.

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ATELIERS CASSANDRE IN FIGURES:

1995:

Ateliers Cassandre is founded

22

years of experience

1600m²

workshop across multiple levels

13

staff

1.8

million euros invested over 5 years.

HIGHLIGHTS:

Challenge:

"In an increasingly strained printing market, the growth of a company depends on its ability to offer its customers a unique service."

Solution:

"We decided to be among the first to offer 5 metre wide sublimation printing."

Result:

"With the FabriVU, our machinery is now of a capacity to provide our customers with anything that they need."

Clément Asnar, Managing Director of
Ateliers Cassandre



Bullish and buoyant

Findings of the 2018 Widthwise Survey suggest that the case for large-format print is being capably made in a rapidly changing world.

"Hi Steven, Do I have your attention now? I know all about her, you dirty, sneaky, immoral, unfaithful, poorly-endowed slimeball. Everything's caught on tape. Your (soon-to-be-ex) wife, Emily. P.S. I paid for this billboard from OUR joint bank account."

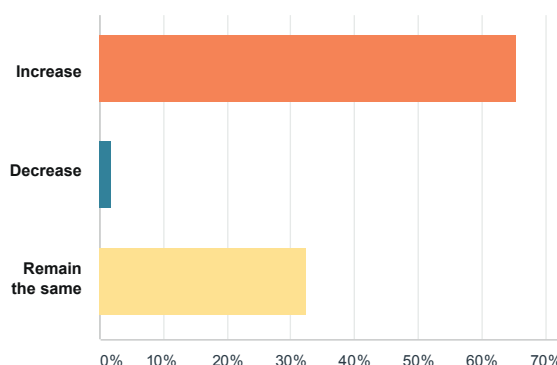
Emily's memorable billboard, with its message aimed directly at her errant (soon-to-be-ex) husband Steve, is a supremely effective example of targeted marketing. It also suggests that there are still many things advertisers can do with billboards that they haven't done before.

As Verica Djurdjevic, CEO of media agency PHD UK, told advertising bible 'Campaign' recently: "What if out of home could really cement its position as the most truly local medium? It has a unique advantage in being, literally, right on the ground and at the centre of many local communities. So imagine if it could be in the community, but also part of the community." For Djurdjevic, the poster at the bus stop could become a "billboard for local events, a way to gauge opinion on local issues, or a way for local heroes to be put up in lights."

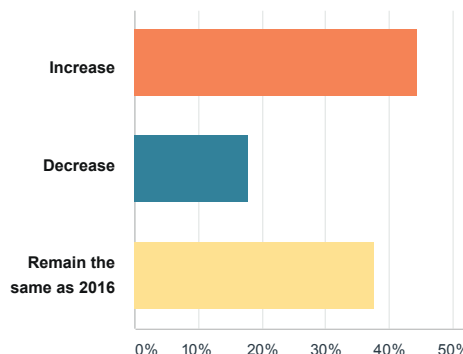
Djurdjevic isn't the only media buyer thinking outside the box. Other recent suggestions include making billboards easier on the eye so that advertising is not just perceived as an inconvenient necessity, using low energy backlights that come on only when cars or people approach and fitting them with electric vehicle chargers. This may all sound pie in the sky but it does suggest that a medium of critical importance to the wide-format printing industry - 69.5% of respondents to the 2018 Widthwise Survey are involved in posters - can still be profitably rejuvenated and reinvented.

This thinking reflects a broader shift over the past year. The 'techlash' isn't just about Facebook's personal data scandal, which has finally prompted some Millennials to wonder how much they should trust social media. The world's largest brand owners, such as Procter & Gamble and Unilever, are demanding greater transparency about online advertising. Mark Pritchard, P&G's marketing chief, said that the digital media supply chain was "murky at best, fraudulent at worst". Keith Weed, Unilever's marketing head, has said that the group "will not invest in platforms or environments

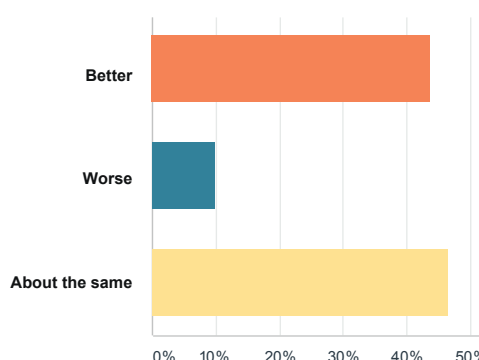
Q6. Do you expect your wide-format turnover ratio to change in the next 2 years?



Q7. How did your wide-format profit margins change in 2017?



Q8. How do wide-format margins compare to other parts of your business?



that do not protect our children or which create division in society, and promote anger or hate.” As P&G and Unilever are the largest advertising spenders in the world, these statements suggest a significant policy shift.

‘Techlash’ also sheds light on the often overlooked, old-fashioned virtues of print. Clients can control the environment - they won’t be alarmed to find their poster alongside jihadist content. They also know that their banner will be seen by people, not a ‘hyphbot’ created to generate fake ‘views’ and scam them. Such shifts may not directly translate into profits for print service providers (PSPs), but the scrutiny of Facebook and Google by advertisers, consumers and regulators does change the dynamic, creating a space where print can make its case.

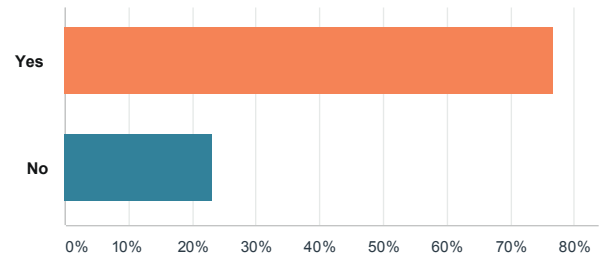
That said, the findings of the 2018 Widthwise Survey suggest that the case for print is already being capably made. The upbeat findings - 44.4% said their wide-format margins had improved in 2017, 76.8% expected their wide-format revenues to grow in 2018 and 42.2% of those predicted growth of 6-10% - show that, as in 2017, the wide-format print sector is probably doing better than the UK economy in general. Internationally, the picture is rosy: Smithers Pira predicts, for example, that the global printed signage market will be worth \$45.7bn in 2022, a slight growth but, given all the hype about digital signage, a significant one.

The upbeat responses to this year’s Widthwise Survey may explain why three out of four PSPs say they are optimistic about their business for the next five years. An even more emphatic vote of confidence in wide-format printing is that 74.8% of those surveyed still expect to be in the sector a decade from now.

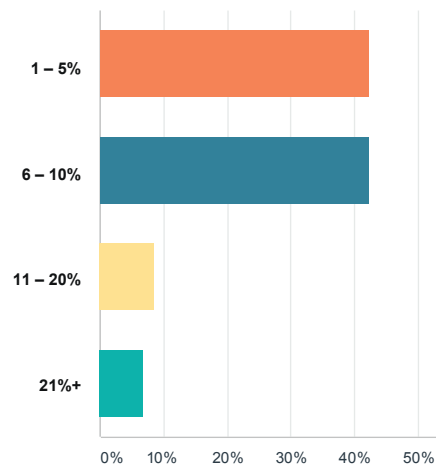
One consequence of this robust performance is that the vast majority of PSPs seem content to stick to what they know. Among the few companies seeking to move into new markets in the near future, wallpaper/murals is a slightly more popular option than exhibition and display graphics, general banners/flags/signage, window graphics and fine art/photography. This reluctance to diversify might seem conservative but it is understandable, given that 54.3% of respondents report that their customer base has expanded in the past year.

Over the years of Widthwise Surveys, the key markets for PSPs have remained pretty consistent, although the percentages fluctuate. The three most popular sectors - by some distance - in this survey are general banners/flags/signage (in which 72.8% are involved), posters (69.5%) and exhibition and display graphics (54.3%). Many companies supply window graphics (43.0%), retail/POP/POS and

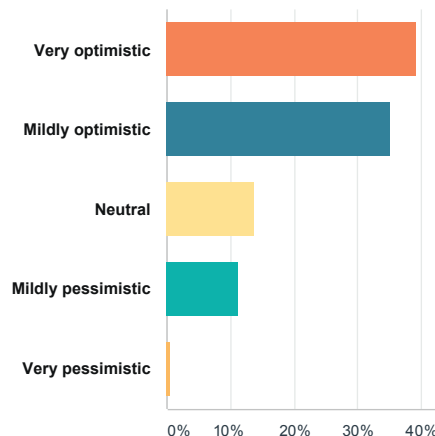
Q9. Do you expect your wide-format turnover to grow in 2018?



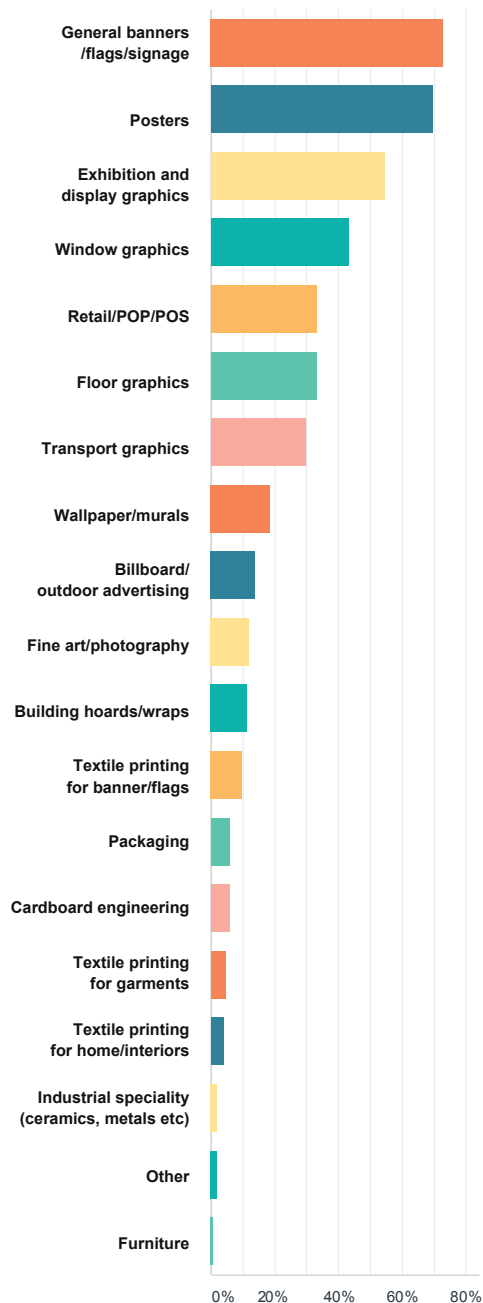
Q10. If yes, how much do you expect it to grow?



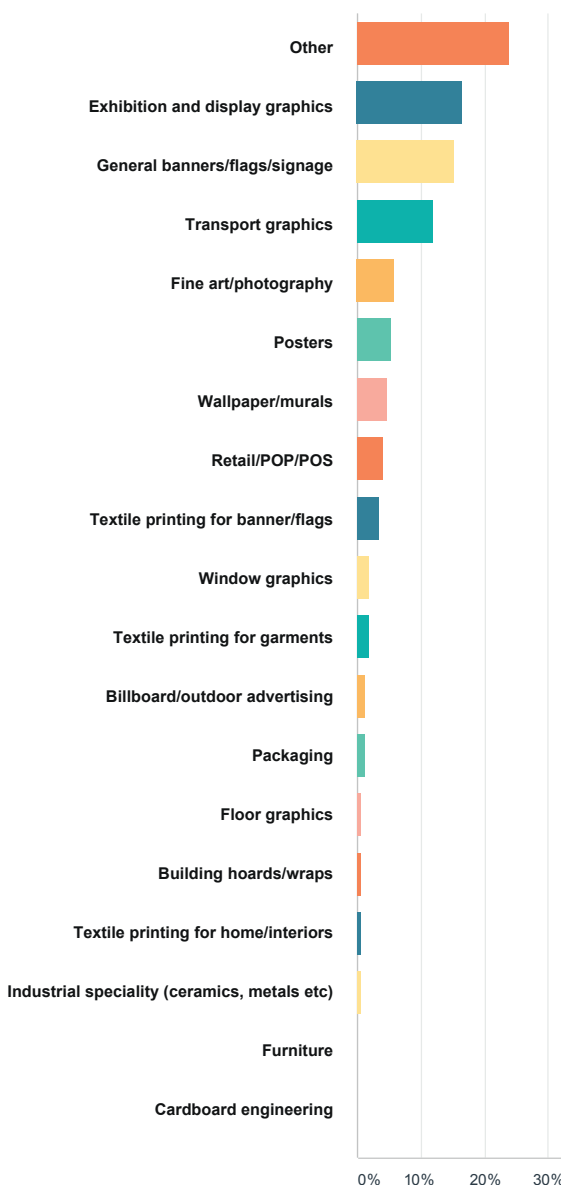
Q11. Looking ahead five years, how do you feel about your business?



Q13. What type of wide-format print are you currently involved in?



Q14. Which of these is the fastest growing within your wide-format operation?



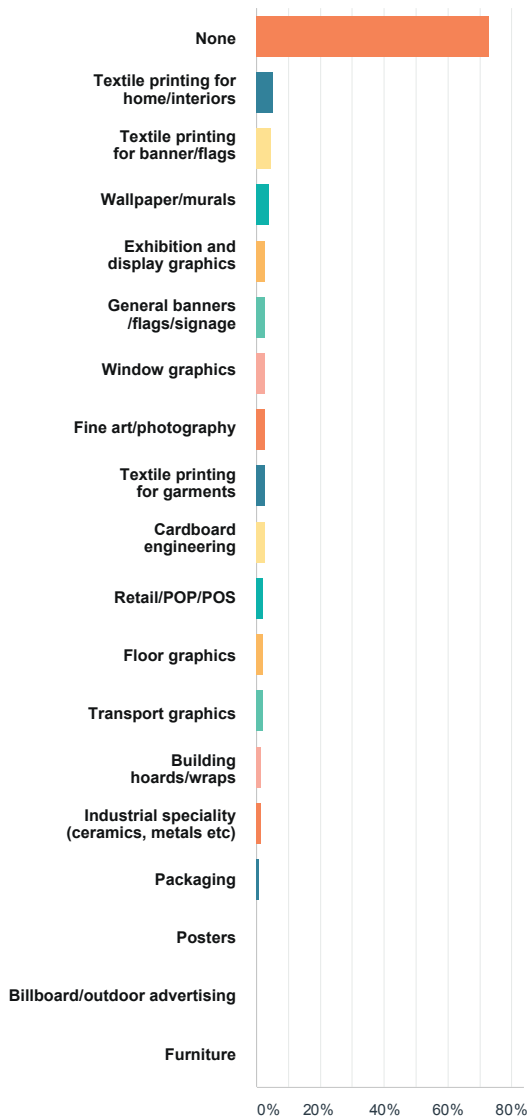
floor graphics (both 33.1%) and transport graphics (29.8%). A significant minority produce outdoor advertising, fine art/photography and building wraps. Textile printing - either for banner/flags, clothes or interiors - is a focus for some companies, though the figures suggest this market isn't keeping up with the hype. There has been a lot of talk about furniture as a market, but with only 0.7% of respondents involved in this market, it seems talk is yet to turn into action.

Traditionally, wide-format printers have focused on

their home market. Yet in 2017, possibly as a result of the Brexit vote, roughly about one in eight companies identified building overseas trade as one of their critical priorities. In 2018, 8.5% those surveyed identified it as a serious goal. As in 2017, growing revenue (41.6%) and improving margins (16.8%) are top of most company agendas, with improving a business's brand or image a focus for 13.2%.

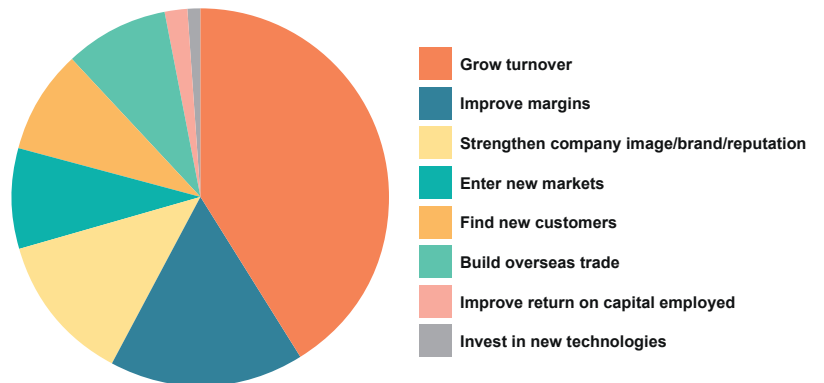
The wide-format sector has, historically, never been better than average at branding. In part, this

Q15. Which of these wide-format markets will you move into over the next 2 years?

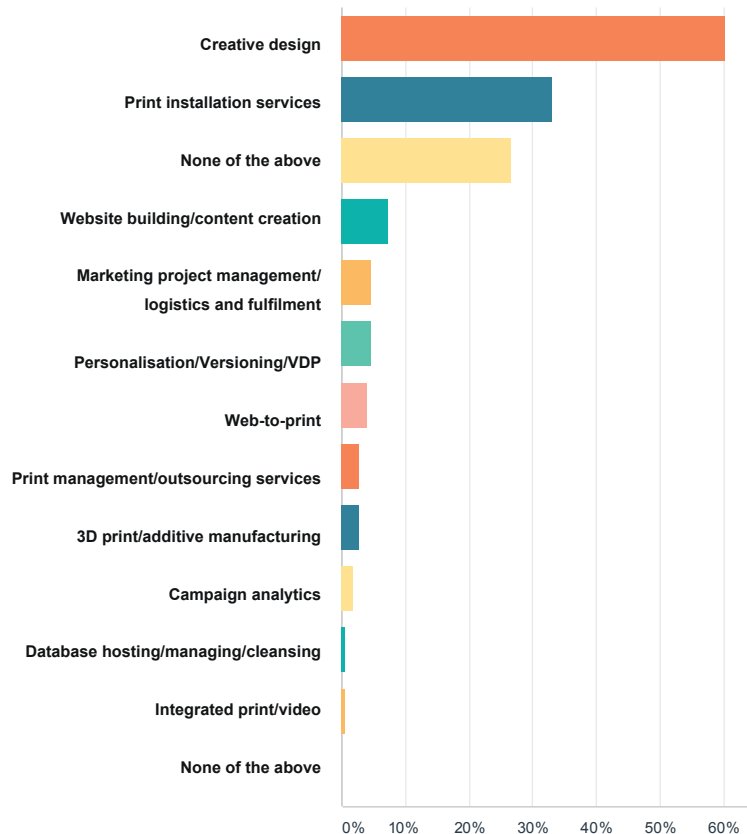


reflects the structure of the industry - it is dominated by SMEs which tend to spend less on marketing than bigger businesses - but also a genuine difficulty in opening up a wider conversation with clients. The mantra “We want to be partners, not suppliers” remains an aspiration for many, rather than reality. If anything, it has become more difficult with many customers replacing experienced - for which read ‘expensive’ - buyers with new, younger staff, many of whom move on within a year or so. Getting to talk

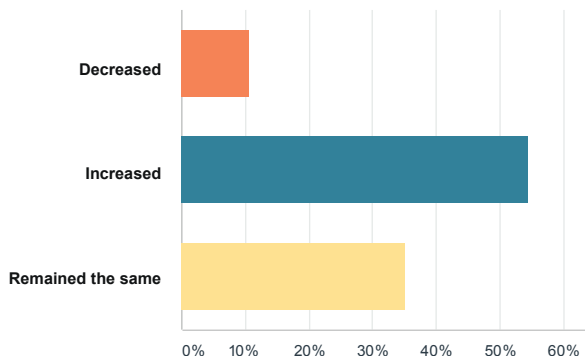
Q16. What is your most important priority for the next year?



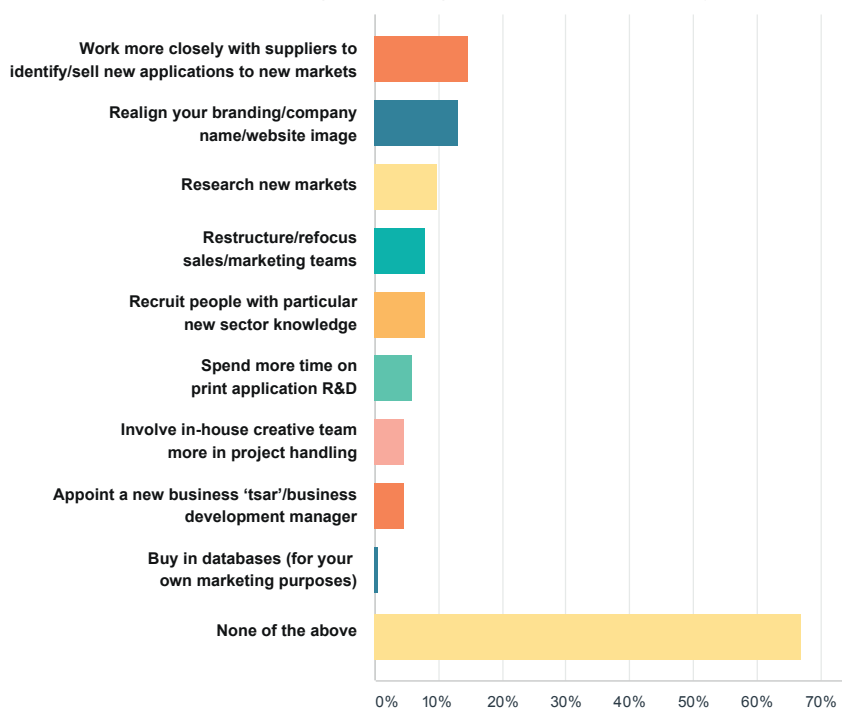
Q17. Do you plan to innovate/add services in any of the following areas within the next year to meet customer demand?



Q18. How has your customer base changed in the past year?



Q19. Have you made any of the following strategic changes within the last year?



to creatives could be a gamechanger but that can take time, so there is a certain logic in improving the brand in the meantime - a target for almost one in five companies over the next year or so.

In a marketplace where enduring competitive advantage arrives on foot and leaves by horse, complexity can help protect against the technologically driven trend to regard print as a commodity. In the consumer goods industry, even such global behemoths as Pepsi, Diageo and Walmart are recognising that modern business is so complex that it is no longer possible or desirable for them to do everything in-house. There are certain

challenges - notably the use of data to improve customer services - that require specialist expertise. There are not enough data scientists to meet demand - and the best of the best will always aspire to work in Silicon Valley - so even companies as sizeable as Debenhams, one of the UK's most iconic retailers, are looking for partners and collaborators. The trendy term for this strategy is 'ecosystem' and it does offer forward thinking PSPs the chance to collaborate more closely with clients and make it harder for a customer to find a compelling reason to use someone else. The obvious caveat here is that the printing business must have something different to contribute.

Instead of moving into new markets, print companies are looking to tried and trusted methods for making each customer more lucrative. Just over six out of ten plan to offer creative design, while a third are focusing on print installation services. But just over one in four companies don't expect to add any services at all.

Some printers remain dubious about the creative design model. Some don't want to upset customers who are themselves designers. Others ask how they can compete on price, quality or talent with an independent design company? Yet it may suit certain PSPs with particular customer needs and can also help printers develop solutions that their competitors don't have.

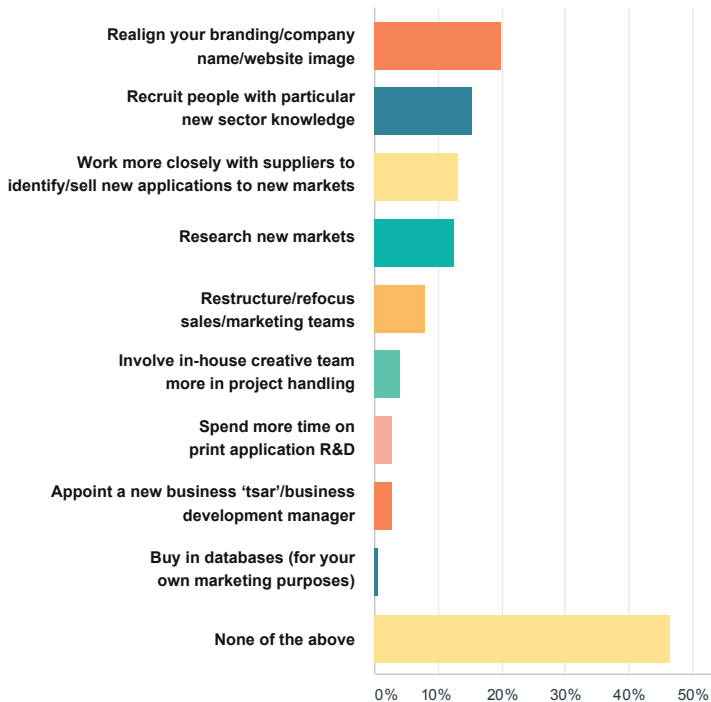
Print installation seems a more straightforward way of generating more value from a client - the mystery here may be that only a third of respondents intend to offer this service.

Many of the technologies that have, in recent years, been touted as potentially transforming the industry - personalised/versioning/VDP, Web-to-print and 3D printing/additive manufacturing - remain a minority taste. The interest in database management, campaign analytics, and integrated print/video is even more lukewarm.

Is the industry being unreasonably backward in coming forward? The successful application of pioneering technology can be a source of competitive advantage. Yet many PSPs can regale each other with cautionary tales about early adopters who have come unstuck in the past. For many, being second is preferable to investing first. This attitude has not, though, deterred 13.2% of respondents from indicating that they intend to work more closely with suppliers to identify and sell new applications to new markets. In a way, these companies are putting themselves at the heart of their own eco-system.

The most striking finding from the 2018 Widthwise Survey may be that none of the

Q20. Do you plan to make any of the following strategic changes in 2018?

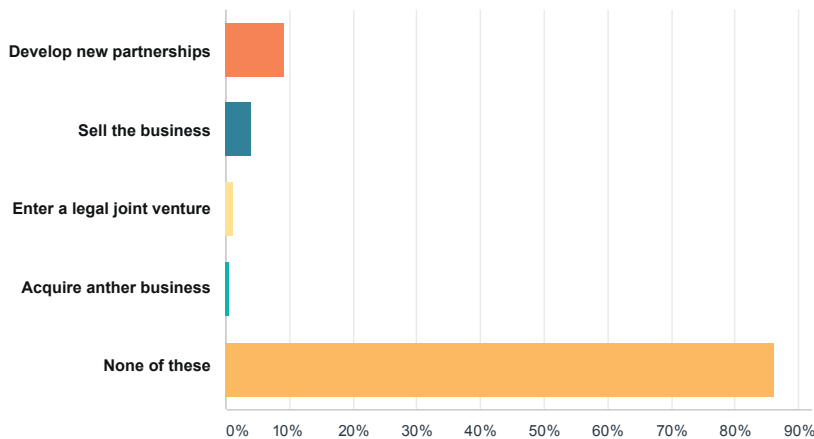


respondents are fretting about Donald Trump - a worry for more than one in ten companies in the survey last year. The greatest sources of disquiet on the horizon are: the price of supplies (a concern for 54.3%), Brexit (39.1% - which we deal with in a separate editorial in this report) and the state of the UK economy (31.1%). You could make a case that the three concerns are linked - in essence, PSPs are fretting about what Brexit will do to the UK economy in general and to the cost of the supplies they import in particular.

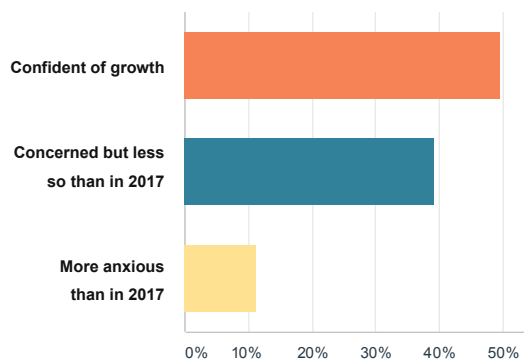
The worry about the cost of supplies is understandable. PSPs have recently had to cope with a hike in the price of inks. Fluctuations in the value of the pound - a consequence of the Brexit referendum - may affect costs for those companies which buy imported substrates or machinery.

Brexit represents the biggest change in the UK's economic policy since Thatcherism was introduced in 1979. Only ideologues, demagogues and psychics can pretend to know how this conscious uncoupling from the European Union will pan out. The consolation for PSPs, as they plan for the

Q21. In 2018 do you plan to do any of the following



Q22. How do you feel about your business's prospects?



disruption ahead, is that they are in pretty decent shape. Since the global recession of 2007/08, the sector has recovered steadily and consistently. The market may be tougher and more competitive than it was - in part because the growth in demand has attracted new entrants from the commercial print sector - but there is still more than enough work to go around. If the industry can avoid suicidal price wars, it looks well placed to manage whatever Brexit brings in its wake.

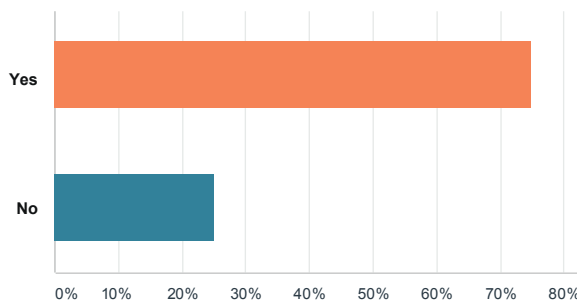
In the longer term, the bigger question may be whether the industry is prepared for technology to further erode the barriers that have traditionally protected wide-format. It is already possible to envisage an AI-powered digital printer that requires little skill to run which could, as the cost of ownership comes down, create opportunities for start-ups or for clients to take some production in-house.

The industry's best defence against such a threat is to collaborate more closely with customers and suppliers and innovate. It is time, to quote George Bernard Shaw's famous phrase, not to look at things as they are and ask why but to dream of things that have never been and ask why not?

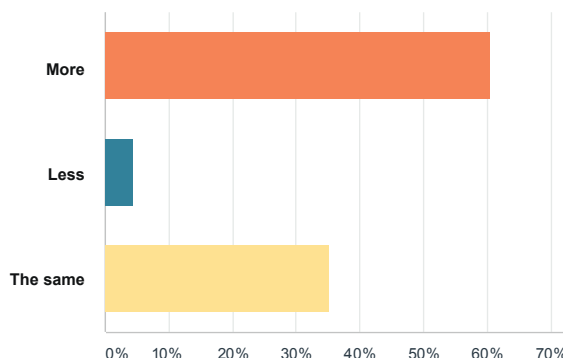
Why not create billboards that become charging points for electric vehicles? Could augmented reality and/or virtual reality become part of a PSP's market offering? Are their business models to be invented that would be better for printers and customers?

Innovating now, from a position of strength, is likely to be more effective than innovating later, when the industry is playing catch up. ●

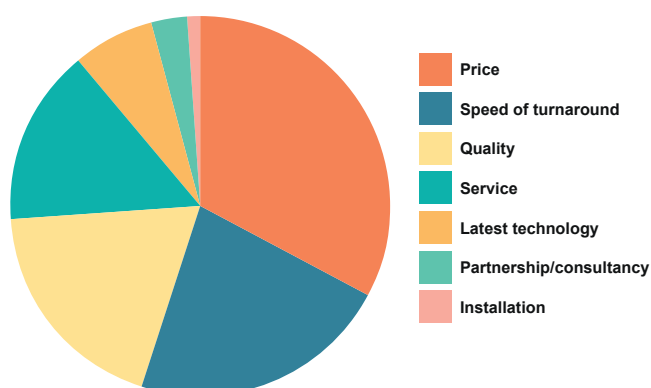
Q23. In 10 years - by 2028 - do you think your company will still be involved in large-format digital inkjet print?



Q24. Do you think it will make up a similar amount of your turnover?



Q26. What do you think your clients' main priorities are?



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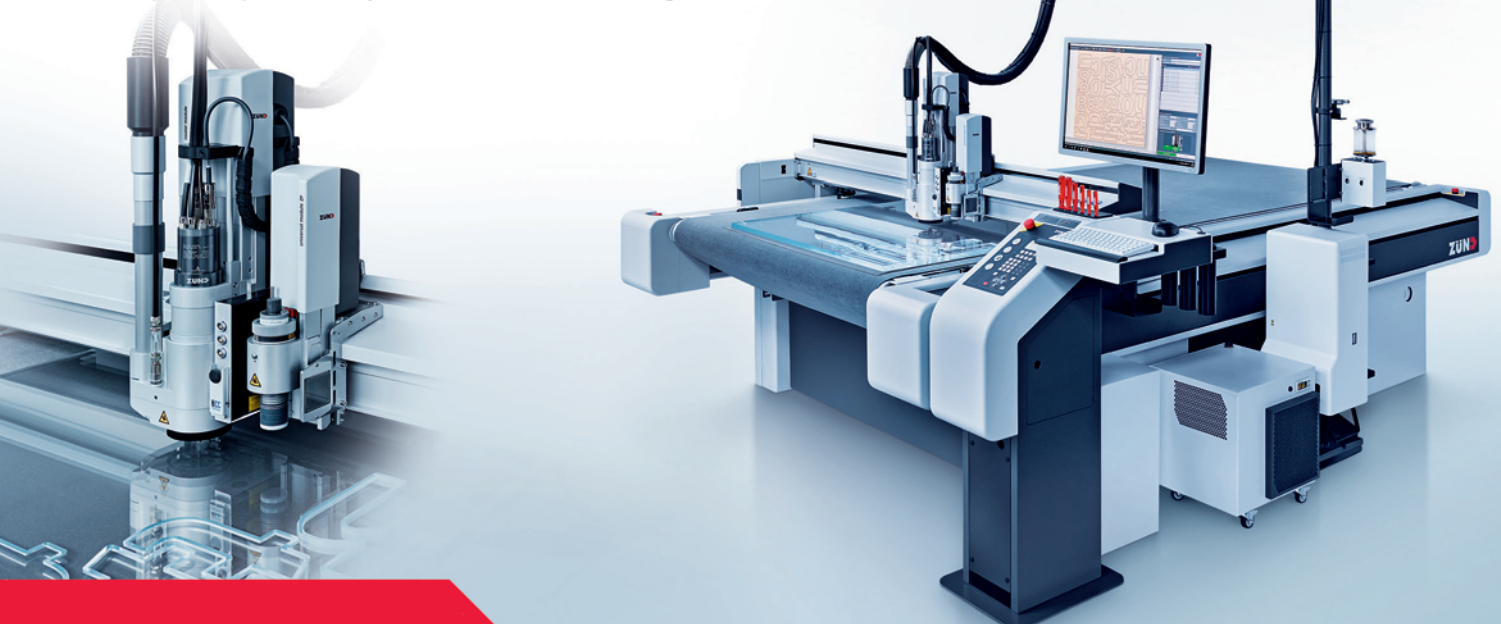
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OMUS wows shoppers ... with the 'world's first' 3D printed pop-up store created for Louis Vuitton using Massivit 3D printing

As most business gurus will likely agree, standing out from the crowd and distinguishing your offering is crucial to retaining and building your client base. Subscribing to this principle is what lead two former signage & display professionals to establish Australia's first dedicated large format 3D printing house, OMUS.

According to Robert Grosso, co-owner of the Melbourne-based company, one of the main factors that led him and his business partner, Matthew Huber to re-enter the printing industry was the unique capabilities of the Massivit 1800 3D Printer.

"We wanted to differentiate our proposition from other sign and display suppliers and produce applications that go beyond those that can be achieved with 2D large format printing solutions," Grosso explains. "This is where our Massivit 1800 comes into its own. It enables us to offer our clients the most advanced, eye-catching large format visual communication in a matter of hours."

OMUS, based in Melbourne, Bayswater, was the first Australian customer to install a Massivit 1800 and is now an established pioneer of bespoke large format 3D printed applications within the retail, staging, events and architectural design arenas.

Grosso believes the investment will enable the company to deliver eye-catching added-value visual communications that better engage target audiences.

"Our customers are always seeking ways to push the boundaries and create promotions with stopping-power," Grosso explains. "Our Massivit 1800 3D Printer is fundamental to achieving this. From a production perspective, the very nature

of building from the ground-up not only enables us to exactly replicate our customer's complex designs, regardless of the scale, it is also an efficient and cost-effective solution."

Large. Loud. Luxury.

This boundary-pushing potential is exemplified in a project that saw OMUS construct what is believed to be the world's first 3D printed pop-up retail store on behalf of luxury fashion brand, Louis Vuitton.

Open for a month-long campaign in the Westfield shopping centre, Sydney, the spectacular 9m-wide, 10m-long and 2.7m-high (29.5ft x 32.8ft x 8.85ft) structure was created using the company's Massivit 1800 3D Printer in just 18 days.

The project saw OMUS work closely with Louis Vuitton's design agency, Gold Coast Displays, to build an unforgettable superstructure that would launch Louis Vuitton's new menswear collection. According to Grosso, given the complexity of the design and the limited time available (just three weeks from the point at which OMUS received the confirmation to go-ahead until the date of the pop-up store's grand opening), 3D printing was the only viable manufacturing method.

Dual print head capability accelerates production

In order to meet the project's stringent

deadline, OMUS enlisted the support of another Massivit 3D customer, Sydney-based, Composite Images. Utilising the Massivit 1800's unparalleled print speed of up to 35 cm (14") per hour, two printers were deployed around the clock, each using dual print heads to produce two hollow panels simultaneously.

Fabulous Finish

To ensure that the panels could tolerate the massive 243m³ (797ft³) structure, OMUS 3D printed several panels with thicker walls while also inserting support 'ribs' into them to ensure they didn't deform throughout the campaign. The 3D printed outlet was then covered in chrome mirror self-adhesive vinyl and adorned with distinctive Louis Vuitton-designed animal prints, reflecting the theme of the menswear collection on display.

According to Grosso, Louis Vuitton and its design agency, were delighted with the final result. "3D printing completely exceeded their expectations in terms of its WOW-factor and ability to realise their original vision and radiate the opulence of the company's new line," he explains.

For Grosso, this particular project underscores the power of the company's large format 3D printing firepower. "As this project demonstrates, Massivit 3D printing is fundamental to our business offering," he says. "Thanks to the fantastic support we received from Massivit 3D we have truly unlocked the potential and unique capabilities of the Massivit 1800. With the ability to produce premium three-dimensional large format displays at a competitive price and timeframe, we are now working in new markets that were previously unattainable to us. For any supplier in this space, this is fundamental and offers terrific potential for profitable growth."



170cm

Printing time:
6.5 hours

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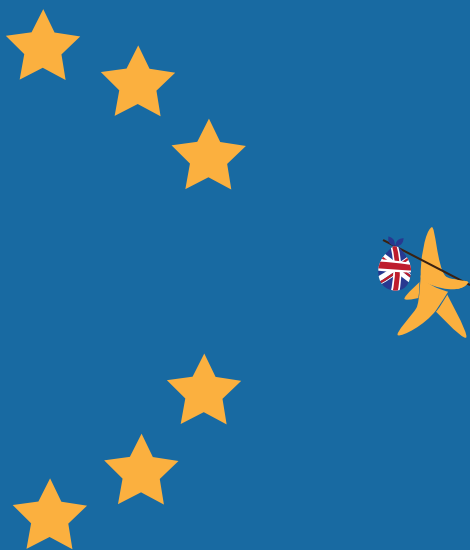
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See a live demo at Sign & Digital UK, April or at FESPA Berlin, May!





Brexit...

...and the thorny question of what its impact will likely be on players in the large-format print sector?

What exactly is Brexit? Is it a bag of crisps, a moon landing or the Eagles' classic Hotel California? The UK's departure from the European Union has been likened to all three. One of the most experienced British trade negotiators compared the decision to "swapping a three course meal for a bag of crisps". David Davis, the Cabinet minister in charge of Brexit, has insisted that delivering it involves a lot of projects which "make the NASA moon shot look quite simple". Backbench MP Charlie Elphicke worries that the Brexit transition could turn into a kind of Hotel California where Britain can check out any time it wants but never actually leave.

To British print service providers (PSPs) Brexit is one giant uncertainty - 39.1% of respondents of the 2018 Widthwise survey identified it as the greatest concern facing their business in the future. It's worth noting that the greatest concern - the price of supplies, a worry for 54.3% of those surveyed - may also reflect anxieties about a move that, whether you voted Remain or Leave, represents a great leap into the unknown.

That is reflected in the lack of consensus about what Brexit will mean for digital print: nearly seven out of ten respondents said they weren't sure that impact it would have - 20.5% expected it to be harmful and 10.6% believed it would be beneficial.

We are psychologically hardwired to be unsettled by uncertainty - studies show that we would rather

definitely get an electronic shock now than possibly be given one later - and this reflex is especially prevalent in business. Much of what companies do - forecast sales, pitch for business, make a case for a loan - is predicated on studying the past and present and projecting that, possibly with a few caveats attached, into the future.

That is impossible with Brexit. The two sides in the debate cannot even agree on the basic facts, which makes it hard for any sector - let alone one as sensitive to economic fluctuations as wide-format print - to look forward with any confidence. Even though Michel Barnier, the European Union's chief negotiator on Brexit, has reassuringly suggested that 75% of the work has now been done to facilitate the UK's departure, no one can say with certainty what lies ahead.

In July 2016, weeks after the referendum result, British novelist James Meek argued that the result hadn't really settled anything: "Will Britain continue to have high levels of immigration or not? We don't know. Will house prices fall, rise or stay the same? Don't know. Will Britain continue to be part of the European free trade zone? No idea. Will there be a bonfire of EU environmental regulations? Might be, might not. Will Scotland stay in the UK, will Ulster, will the British fishing fleet grow or shrink, will foreign investment in the UK collapse or boom, will the City dwindle or thrive, will we actually ever leave the EU? We don't know."

Less than a year before the official deadline for Brexit, most of Meek's questions remain unanswered. It does now, at least, look likely that the UK will actually leave, thereby averting the Hotel California scenario. Yet other thorny questions have since emerged - most notably, what happens if the devolved Welsh and Scottish assemblies vote against a withdrawal bill, an issue not to be debated by anyone who a) isn't a constitutional lawyer and b) values their sanity.

In reality, Brexit is unlikely to be the unmitigated economic disaster for the UK that Remainers fear - but nor will it be the silver bullet to solve all of the country's economic problems, as some Brexiteers have implied. The most sober evaluation comes from the British government which - in an episode that showed how toxic this issue has become - initially refused to publish the impact assessments it had commissioned. Leaked to BuzzFeed, and the finally released to the media, the research suggests that Brexit will be a curate's egg.

The assessments suggest that anything that gives a degree of free access to the European single market, going beyond the rather basic free trade agreement that once seemed inevitable, will soften

the initial blow to the British economy. Although the media focuses obsessively on tariffs, many of the trade barriers between the EU and the rest of the world are regulatory - and harmonising these would cut the cost of Brexit significantly. The government has also not yet factored in how a “unilateral non-tariff barrier liberalisation” - effectively making it free to trade with the UK - could help manufacturing.

The bad news, as the ‘Financial Times’ reflected in its analysis, is that the government expects Brexit to put a much greater strain on public finances than was feared before the referendum. The posters declaring that the UK should take back the £350m a week it sends to Brussels - so instrumental in winning support for Vote Leave - now look more disingenuous than ever. The official estimates now suggest that a more accurate poster to stick on the side of a bus would be to say that Brexit will cost the British government £1.1bn a week. The assessments are also pessimistic about the upside of the UK’s departure - estimating that trade deals with the US and very other significant global economy would, at most, boost GDP by 0.6% a year.

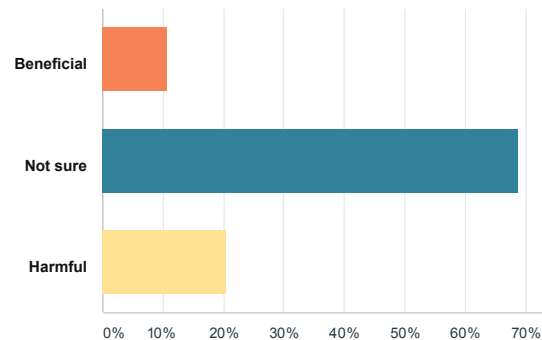
Within the UK, the most serious short-term consequences of Brexit are likely to be on business investment. As Julian Jessop, chief economist at the Institute for Economic Affairs, one of the more pro-Brexit think tanks, suggested recently: “Any easing of uncertainty about Brexit should allow investment to accelerate once more. There may well be plenty of pent-up investment in UK projects that had been put on hold in the wake of the referendum.”

As British large-format PSPs do not export a lot, they will be slightly insulated against the effects of fluctuating currency markets. The greatest worry - reflected by the nearly four out of ten respondents who were concerned about the price of supplies - is that these fluctuations will raise the cost of imported materials and machinery.

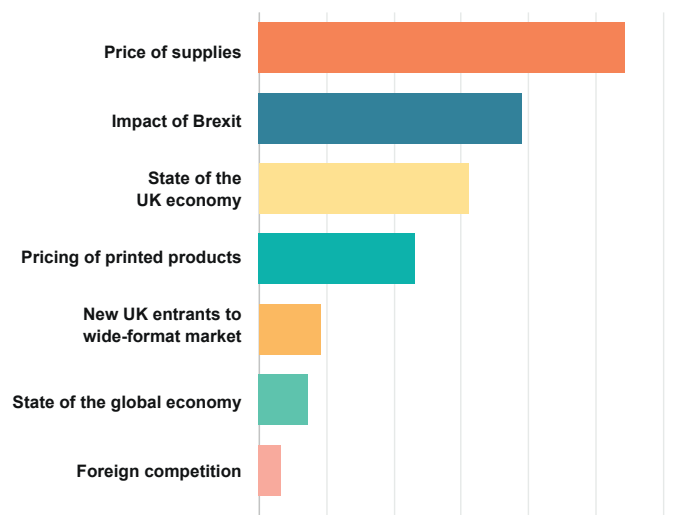
The retail sector, one of the biggest buyers of wide-format print, looks particularly vulnerable in the short term. Already wrestling, not entirely successfully, with the e-commerce revolution (especially the ever-growing threat posed by the likes of Amazon) and the unpredictable demands of Millennial consumers, British retailers closed 5,855 high street stores in 2017. With such chains as Toys ‘R’ Us, Maplins and East going into administration in the first four months of 2018, the pressure on retailers shows no signs of letting up. Retail’s travails cannot be blamed on Brexit - although a weak pound has made it more expensive to import goods and materials - but such a dramatic shift in the UK’s relationship with the rest of the global economy could hardly have come at a worse time for the sector.

The most surprising aspect of Brexit is probably

Q12. What impact do you expect Brexit to have on your business?



Q25. What are your biggest concerns for the business in 2018 and beyond?



that, on 29 March 2019, when the UK officially leaves the EU, nothing will feel very different. Our natural tendency to overestimate change in the short term - and underestimate it in the long term - has been encouraged by a sensationalist media. Yet the 2018 Widthwise Survey suggests that the wide-format print industry is approaching this historic moment with robust resilience - 74.2% of respondents were mildly or very optimistic about the future of their business over the next five years.

Are large-format PSPs right to be sanguine? Or are they deluded? Whatever metaphor you think best applies to Brexit, it is the greatest “known unknown” to face British business since the birth of the internet. The best response, until things become clearer, may be to follow the old management maxim “Keep your powder dry”. ●

Going for growth

Two key players in the large-format print space share their strategy for business building.

Displayways

When Rob Kelly and Peter Sheldrick bought Displayways in 2012 it had 11 staff and a £1.1m turnover. Now it has 35 staff and a turnover of £4m+ and the plan is for continued expansion via continuing investment. That's been relatively hefty since the duo took over at the helm of this south London-based business - renowned for providing graphics and display solutions for unusual, complicated and difficult applications, mainly within the exhibition and museum sector - but don't think it's all been about kit enhancement.

There have been two £500,000 tranches of investment since the takeover, a chunk of which has certainly gone on production kit and software, but it has also included extending the business premises and creating an 'Ideas Room' to show customers new printed applications. Add to that another £500,000 a year in salaries for key new people, then money spent on acquiring Mintsources Visual Communications back in 2015, and in setting up Displayways Visual Communications (DVC) last year, plus what it has spent with project partner Senso in creating a printed speciality permanent flooring product, not to mention the cost of the R+D effort that Kelly says "means that every month we're probably printing something new because it's in our culture to push boundaries and test ourselves on what we can achieve."

Kelly (MD) says the next round of investment is "on hold because there's a lot we want to stabilise given the huge strides we've already taken," pointing to the fact that it is bedding in an extra shift (8pm-midnight) following the installation of a new Arizona flatbed and another Zund cutter last summer, and getting to grips with a new operating system across production, all on top of the other developments already mentioned.

"We have room for another big printer, and we intend to start offering a new process. That was going to happen summer 2018 but we've decided not to try and do too much at once - plus, it's important that you enter the right market with the right products at the right time to be successful. The permanent graphics rigid panel solution we are working on will add another string to our bow but the materials and coatings people need to do



more work before we can offer the guarantee we want to be able to offer so it's important that is sorted before we start making any noise about it. When it comes to R+D you have to be in it for the long haul."

As Kelly stresses, "people don't buy from Displayways on price. It's not about being the cheapest but the best", and for him that means a huge focus on recruiting, and retaining, the best staff as much as developing the right print offerings and appropriate routes to market (eg setting up DVC through which it sells a broader range of lower-end large-format products to a wider customer-base).

"There's a case in point," says Kelly. "We set up DVC to get more 'consumable' type graphics to the kind of companies that wouldn't be Displayways' normal type of customer. In its first year (to end September 2017) it turned over £1m and we're hoping for an increase on



that this year, but a lot of that success has been down to having the right people in the right place.” By which Kelly refers to former Service Graphics sales director Nick Bishop, who heads up DVC. At the time of his appointment last summer Displayways also brought in other key people - client services director Paula Paterson, bespoke graphics account director Martin Hort, and finishing manager Martin Barnard.

“We look at growth from three perspectives,” says Kelly, “investment in kit, investment in innovation and investment in people. In terms of kit you have to make sure you buy what’s going to give you the best quality - and you need to invest in solutions to make your business efficient. In terms of innovation it’s about being able to do what others can’t. But having the right people is crucial too.

“To be successful you have to offer the best service. That attracts more business and enables you to grow market share. That’s all underpinned by having good people. We’ll wait for the best, and we’ll pay for them because you have to if you want organic growth.

“We have clients who have the same kit as us but they send us work because their operators don’t know how to do what ours do. That’s down to getting the right staff, investing in training, and remunerating them properly. We run a bonus scheme too for production staff. It’s not based on turnover but on their individual performance. We do what others can’t/won’t do, so we understand we need to invest in the those who will go the extra mile, who are flexible when we need them to be etc.”

Having bought Mintsources in 2015 to help it grow

market share at the bespoke end of the display graphics market, Displayways subsequently rolled its client-base no its own, but still uses its founder Sue Woods on an ad hoc consultancy basis when required. And the company currently has its eye out for “people with specific abilities at all levels.”

It is not, however, after designers like many PSPs because as Kelly says, “designers are our customers”. That’s one of the reasons why Displayways has spent so much money and effort on its ‘ideas room’, having turned part of its office space into a showroom of printed applications - a concept it’s now taking over into the enlarged production space too, with the walls, floor, windows all showcasing printed graphic possibilities to visitors.

“We bring a lot of clients in here so they can see just exactly what we can achieve, and they’re always blown away,” enthuses Kelly. “Though it’s often the contractors who actually place work with us, it’s the designers, the architects and project people who often tell them to use us because we make a concerted effort to get them in and show what we can do. You need to put in the time and money and understand that it can be a while until you see any pay-off but you do get a longer-term gain.”

That long-term approach is one he takes with suppliers too, nurturing relationships with kit and consumables suppliers to become a “test-bed” for new developments “that will give us an edge further down the line”.

“Our culture is to push boundaries. You have the right mindset to grow a business like ours”. ●



Andesign

When in March 2018 Sutton Coldfield based Andesign became just the third company in the UK to install a Massivit 1800 3D additive manufacturing system, founder and MD Andy Williams announced he expected it to drive turnover from what's currently just under £4m to £6m within three years. Strategic development planning beyond that kind of timescale he believes "is just untenable in today's fast moving marketplace, but we know we have to keep doing something a bit different from everyone else if we're to grow the business."

It's ironic then that Williams has turned to 3D printing, given what he says prompted the diversification of what is essentially a large-format digital print operation, and which along with supplementary kit and extra staff - which we'll come on to in a moment - has cost him around £700,000.

"I started looking at 3D possibilities in 2017 when I began to realise it was a technology we couldn't ignore. 3D printing is everywhere!" But, the point is, it's not everywhere on this sort of scale (the Massivit 1800 'prints', or rather manufactures objects up to 147cm wide x 117cm deep x 180cm high) or as yet from PSPs aiming to add it to their 2D print offering.

Having founded the company in his mum and dad's garage in 1996 Andesign moved to its current location in December 2014 following an intermediary stint at a nearby site where it operated EFI Vutek GS3250R and GS3200 machines. At the point of the move those were replaced by all new kit as part of an ongoing investment, that from then until now has totalled around £2m, and includes an EFI Vutek HS 100 and GS5500LXr, 3.2m MTEX, Mimaki solvent and HP latex printers as well as finishing kit. It also includes the latest tranche of investment in the 3D project, which apart from the Massivit machine itself also includes an EFI H1625-SD printer running Super Draw UV inks for printing onto thermoform materials, a Formtech 2440 large-format vacuum forming machine and the building of a spray painting booth.

"We didn't want another straightforward large-format printer," says Williams. "We have capacity with our existing kit because we can just step up our 12 hour shift pattern as necessary. The technology we already have is top quality and is not being superseded by anything that will allow us to do anything different or better. We don't see any value in trying to knock out cheap volume work. What we want to do is to keep diversity in the company and increase turnover by offering something others aren't. We don't want to be battling for £10m² jobs."



Williams admits he's taking a leap of faith by attempting to add large-scale 3D models to 2D print having done no actual research into customer appetite for such integration, but his gut feeling is that it's there and being one of the first to be able to satiate the desire will give Andesign an edge.

At the time of this interview the Massivit was just on site, the Formtech due the following day and the spray booth just about completed. But Williams expects commercial runs to start in the summer "and to see some profit before the end of the year". First he has to sell the idea to existing and potential clients and an Open Day on 1 June is key to garnering and measuring interest.

"We think we can up-sell to customers who already buy 2D print from us and find new ones too, such as theme parks etc.," says Williams. "So far we've just done a bit of prototyping, but our job now is to start showing that the possibilities are endless."

Williams has taken on a 3D sales development member of staff to help him do just that. He has also recruited two full-time 3D Cad designers as well as a spray booth operator/finisher for the new service, taking total headcount up to 40 at the company - which by the way, has just introduced a share option scheme to entice new blood and reward loyalty.

Some of the 3D products Andesign will produce will come straight off the Massivit and will be wrapped or sprayed to deliver a fully coloured end result. Others will utilise the EFI H1625-SD printer and Super Draw UV inks for producing graphics on thermoform materials and the Formtech vacuum former to create 3D moulds.

On its website Andesign has started the marketing process by describing application possibilities for its 3D output, saying...

- Art installations: create bespoke 3D art installations directly from a digital 3D model. The UV stable materials are perfect for interior and exterior usage with the ability to combine pieces to create large bespoke structures.

- Project demonstration: large architectural 3D models can be used to help realise the scale and complexity of commercial developments and city centre regeneration projects.

- Home décor: create items such as light fixtures, personal items and unique functional furniture.

- Office décor: create fun and unique items throughout the office or create unique boardroom talking points to break the ice with clients. 3D models demonstrating your business services are very unusual and will be well remembered.

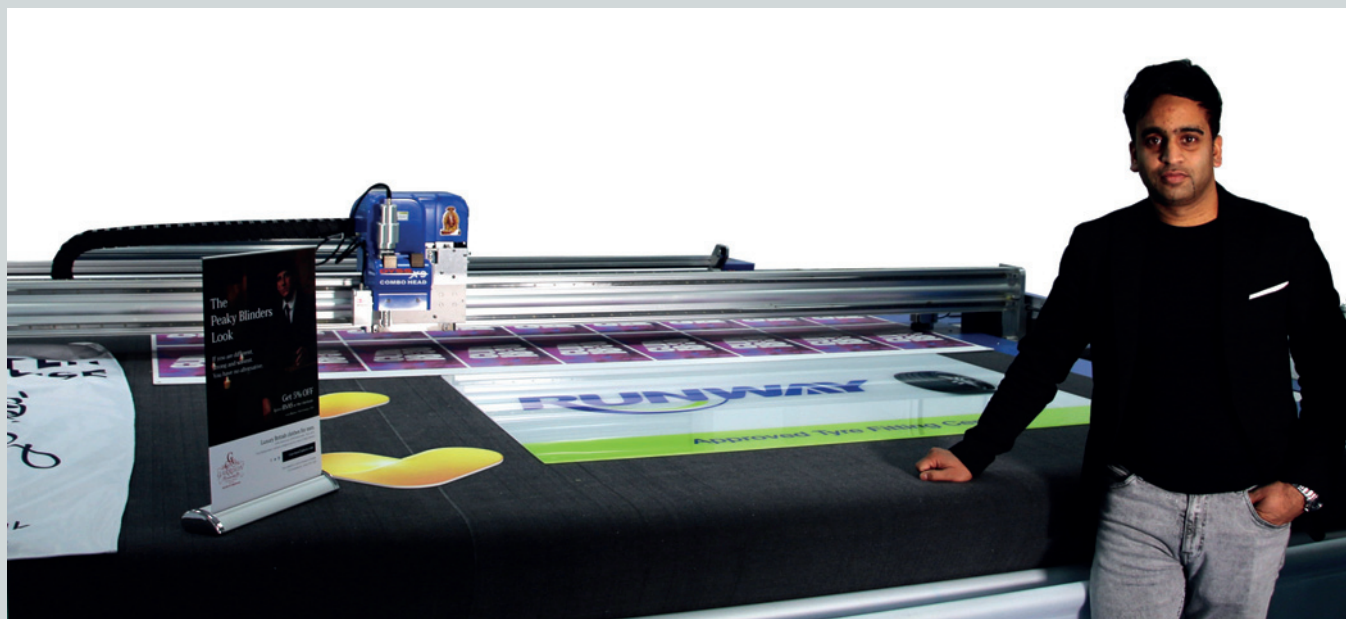
- Rapid-prototyping and short run: create 3D objects accurately and at reduced costs meaning



you can check the size and suitability of prototyping items without the extended lead times and heavy costs of having items individually machined.

Sounds impressive, so does Williams expect most of Andesign's turnover growth to come specifically from 3D projects? "Mainly," he says, "but we also expect the capability to open more doors for us to take extra 2D print work too. We also expect it to grow the amount of European work we do, currently a really small proportion of our turnover.

"The thing is, retail especially is becoming much more experiential so being able to deliver something that can improve customer/visitor experience has got to be a valuable addition to your offering." Time will tell. ●



DYSS Cuts it for PrintVision

Printvision is a business that was conceived in a bedroom by two budding entrepreneurs, Ash and Krit Patel. Twenty one years after the ambitious brothers made the bold decision to found Printvision as co-directors, the company has just invested over £1.5million in two 3m wide digital printers, a 3.2m wide digital cutter from AG/CAD and a new 14,000sq/ft facility.

The journey to this latest investment has seen Printvision follow business trends and exploit opportunities for over two decades. This has noted the Leicester company undertaking everything from graphic design and the printing of flyers, leaflets and brochures through to packaging, stationery, indoor and outdoor signage, LED light boxes (Tension Fabric System), exhibition stands, FSDUs, flags and fabric production, and much more.

When the business received an enquiry for roller banners and pop-up display units at the start of the century, Printvision bought its first large format printer. Since then, Printvision has invested in litho and further roll and flatbed digital printing technology from HP, Mimaki, Epson and Océ, as well as laminating equipment. Entry into the exhibition sector has seen Printvision double, and in some cases treble its year-on-year turnover consistently for over a decade. The phenomenal growth

is testament to the commitment and dedication of the staff and the strategic vision of the management team, all backed by the latest technology.

Fabric for Success

This vision has seen the company carve a niche in fabric and textile printing and displays, something that first took-off in 2016. Then, in October 2017, as part of a concerted effort to seal its position ahead of its competitors as a truly niche manufacturer specialising in wide format roll media, Printvision installed a EFI VutekFabriVu3.4m wide digital fabric printer and a 3.2m wide Mimaki UJV55-320.

With the new investments printing flags, tablecloths, gazebos, and various textiles for exhibition stands and displays at speeds never before thought possible, staff could no longer manually cut fabrics at the pace the printing machines could complete their tasks. This meant some cutting being outsourced and additional staff being deployed to hand cutting to help keep control of the bottleneck. However, precision, control and lead-times were also becoming a cause for concern.

Enter the DYSS

Printvision anticipated the need for a digital cutter solution and spoke with AG/CAD about a DYSS X9 at the 2017 Sign & Digital exhibition. Commenting upon the

decision process, Managing Director, Ash Patel says: "We were outsourcing some of our cutting work and the remaining work was already beginning to overwhelm our staff, creating a bottleneck. The recent arrival of the Mimaki UJV55-320 and the FABRIVU 340 would have compounded all the bottleneck, labour and outsourcing issues even further if it wasn't for the timely arrival of the DYSS X9."

"We looked at the necessary technology at the Sign UK show and AG/CAD and their DYSS brand stood-out for us. We liked what the DYSS had to offer, we liked the approach of AG/CAD, the price was attractive, the build quality was outstanding and we realised the technology available would be a genuine asset to our business."

"As our experience with the cutter grows we have also come to realise how important aftersales service is and that is where AG/CAD has really excelled, helping us overcome issues and guiding us along the way. Assistance is available immediately without waiting for a ticket or a call-back, and when we have had minor learning curve issues that needed AG/CAD to visit, the next day service has been brilliant."

High-End DYSS Cutter for High-Throughput Print

Printvision opted for the top-of-the-line spec. DYSS X9-3230C digital cutter with

a 3.2m by 3.2m bed, the UK's first X9 installation of this size. "With two 3m wide high-output printers, we needed a very capable cutting machine. With the DYSS X9, we have that machine."

The DYSS X9-3230C incorporates a revolutionary motion control system with state-of-the-art drive technology that gives control, speed and power. The innovative drive technology also eliminates backlash to improve precision and repeatability.

"The new FABRIVU 340 is currently printing 490 tablecloths in a day; this would have previously taken 10 days. We are also producing a batch of 532 flags that are printed both sides. These 2m flags for fuel station forecourts now take 3 days to produce instead of around 3 weeks. The DYSS X9 has no problem keeping pace with these high production speeds. Not only has it removed our bottleneck, it has also eliminated our outsourced cutting costs and freed up staff from manual cutting tasks."

It's a Material Thing

The DYSS X9-3230C has a 3-tool Combo head with a reciprocating knife tool, a powered rotary blade tool specially designed for flag mesh and textiles, plus a high-frequency router spindle. It is also equipped with the K-CUT Vision system that enables Printvision to process everything from Vinyl, Acrylic, Dibond, Correx and fluted boards through to

more challenging materials such as flags, display polyester and tent fabric with unparalleled precision.

AG/CAD flies the flag for fabric cutting

The powerful high-frequency routing spindle and the high-speed reciprocating knife tool have a reputation for carving through the toughest materials with ease. However, the unique characteristics of fabrics and textiles, especially media for flags, pose an entirely new challenge.

For general customers that process standard roll-fed materials like paper, plastic films and vinyl, roll unwinding is normally provided by a relatively simple passive Roll-Off device. However, the potential wrinkling and stretching of porous textiles are a totally different proposition. AG/CAD overcame this perplexing challenge with a sophisticated dynamic tension roll-feed solution on the DYSS.

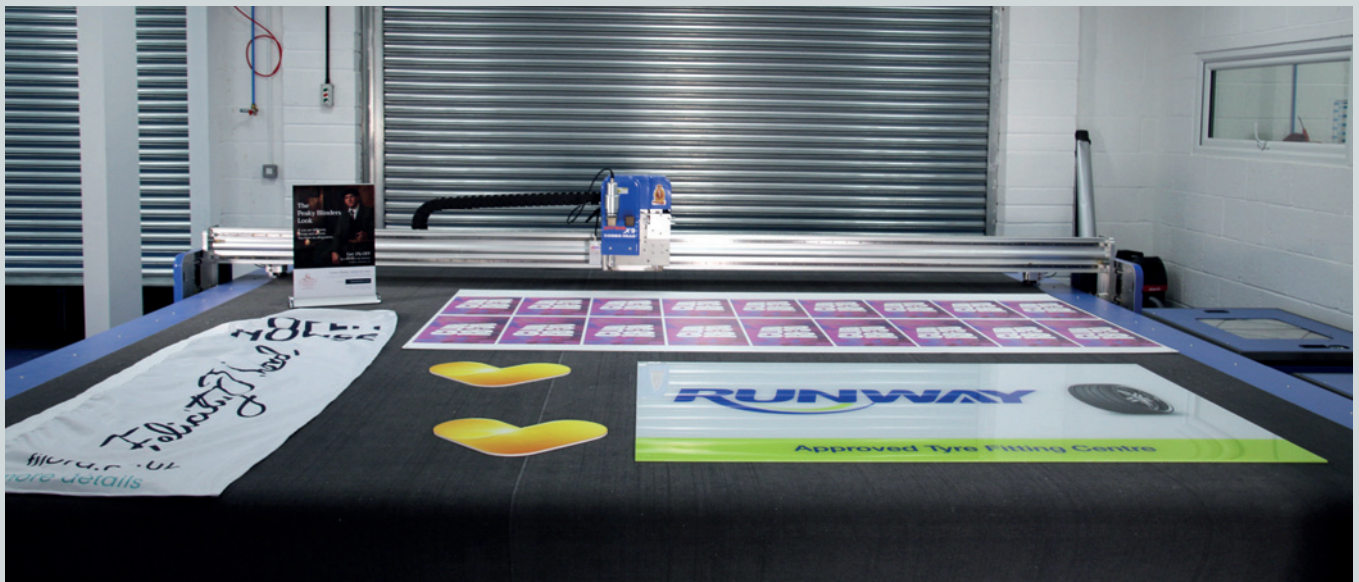
Fitted to the rear of the DYSS X9, the auto tensioning system applies a constant tension to fabrics and dynamically adjusts the forces on the material as unwinding takes place which eradicates creases and wrinkles forming. Different materials and roll widths require different tension levels, so to cater for this the system has an almost infinitely variable tension control feature allowing quick and simple adjustment by the operator for each material. By cutting fabrics and textiles with the consistent tensions specifically



required for each, Printvision ensures unsurpassed cutting precision whilst preventing any deformation that could compromise the precision and cut quality.

Completing the package for the fabric cutting process, AG/CAD also added a pull out collection device at the front of the X9-3230C for catching the processed roll media without disrupting work-flow.

Concluding on the acquisition of the DYSS X9, Mr Patel says: "The investment in the DYSS X9 and the wide format printing technology is already opening new doors for our business and changing the way we look at future opportunities. We envisage the new print and DYSS combination will grow our business by more than 60% in a short period of time. The new machines have extended our capabilities massively whilst giving us a unique market position for extra-wide large format work and of course specifically for the printing and cutting of roll media and fabrics. The DYSS is the perfect complement to our wide-format print machines and we are extremely pleased with our purchase." ●



Putting your money where your mouth is

Asking Alexa where your next print job is? Probably not given so few PSPs are investing in the Internet of Things. So where is spend going?

In 2030, your most effective salesperson could be just over nine inches tall, weigh 29 ounces and be called Alexa. That might sound far-fetched but some tech-savvy customers might be thrilled by the idea of just talking through their new order for POS/POP banners, rather than struggling with an online order form that isn't anywhere near as easy to use as their print service provider likes to think it is.

The only way Amazon's digital personal assistant is going to play a role in the wide-format printing sector's sales process is if the industry gets real about the Internet of Things. And so far, on the evidence of the 2018 Widthwise Survey, that just isn't happening. A mere 3.3% of those surveyed say they have invested in Industry 4.0, the umbrella term for an array of

technologies (most notably the IoT, artificial intelligence, robots and blockchain) that will change our world over the next 20 years. The other 96.7% of companies do not plan to spend any money on these technologies this year.

In the UK wide-format sector, companies are exponentially more likely to invest in much more traditional technologies: 22.5% of those planning to buy a new printer are looking to acquire a solvent printer and 21.2% have their eye on a latex printer. UV technology remains of great interest - 21.2% plan to purchase UV curable flatbed printers, 13.7% UV curable roll-to-roll printers and 10.0% UV curable hybrid printers.

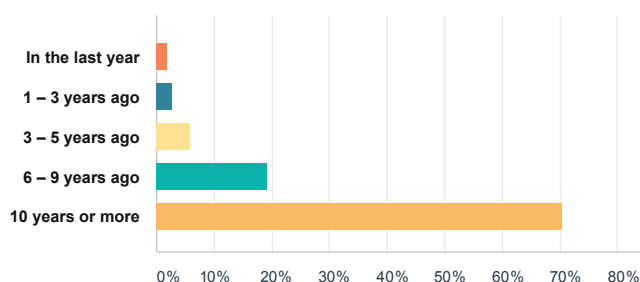
Given that 55% of those surveyed already own one of these machines, the solvent printer looks like being the wide-format industry's workhorse for some time yet. Cheap, versatile, not especially environmentally friendly (all those solvents and plastics), these machines seem to suit the needs of an industry where 32.7% of respondents said their customers care most about price and 21.8% believed clients are mainly concerned about turnaround speeds.

When it comes to solvent printers, as Peter Mayhew of Lightworks notes on p37 of this report, the UK is bucking a global trend. Environmental and safety concerns have spurred a shift away from solvent to latex printers in many markets, a trend encouraged by new more affordable models from HP. To some extent that's happening in the UK too, but the figures speak for themselves.

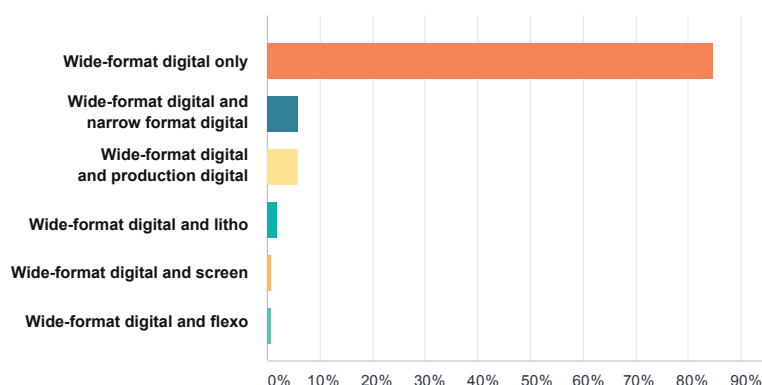
The Widthwise Survey suggests that print service providers (PSPs) are optimistic enough to invest - 34.4% say they plan to invest more than they did last year and 21.8% will maintain their spend. To be clear, the sums involved are not immense: 65.6% expect to invest £20,000 or less in wide-format technology between now and 2020. The pattern is hard to read - are companies investing to replace uncompetitive kit, expand their business or keep up with Jones Graphics? Or a bit of all three?

Apart from printers, companies are most likely to be buying software to offer design services (15.3%) and to improve workflow (8.6%). As in previous years, Web-to-print is only a priority for a small minority (2.0%) - and it's hard not to feel that the industry is continuing to ignore a

Q27 When did your company buy its first wide-format digital printer?



Q28 What type of large-format printers do you own?

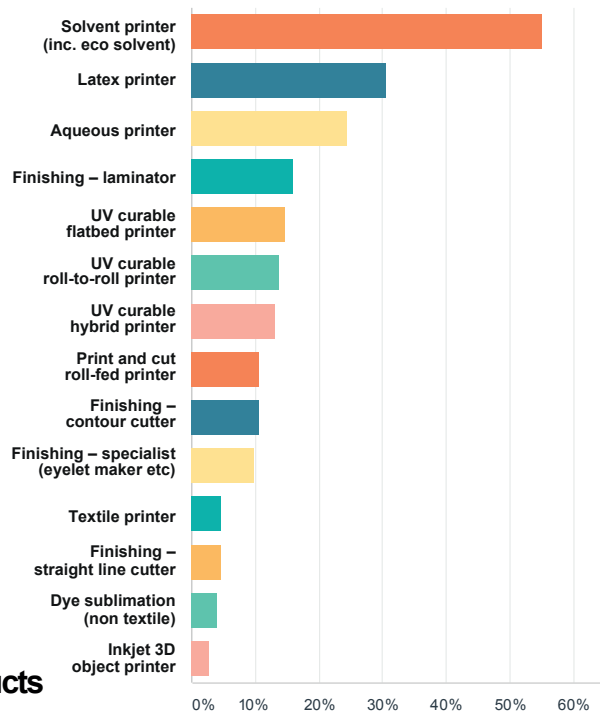


significant opportunity here. Given all that's understood about physical workflow too and the need for an efficiently spec'd finishing department, it's odd that the survey data shows no great interest in finishing either, with 4.6% planning to buy a laminator. Has everyone now invested in finishing kit to the extent that they need not do so for a good while to come?

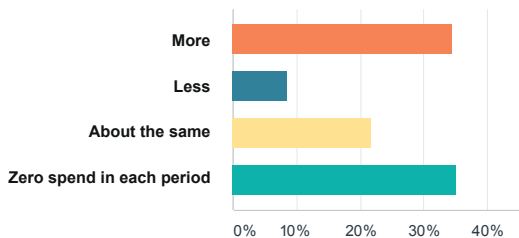
The rationale behind the industry's technological investments has, in recent years, remained pretty constant: 22.5% want to increase capacity, 15.9% to move into new markets and 11.3% to improve output speeds (which, in part, is another way of saying they aim to boost capacity). Just under one in ten were focusing on improving quality - which must reflect in part the advances in wide-format printers - while 6.6% were looking to reduce their unit cost.

This suggests two slightly contradictory things about the state of the wide-format print market in

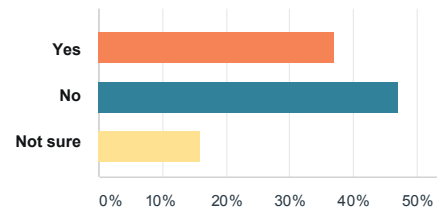
Q29 What type of wide-format equipment do you own?



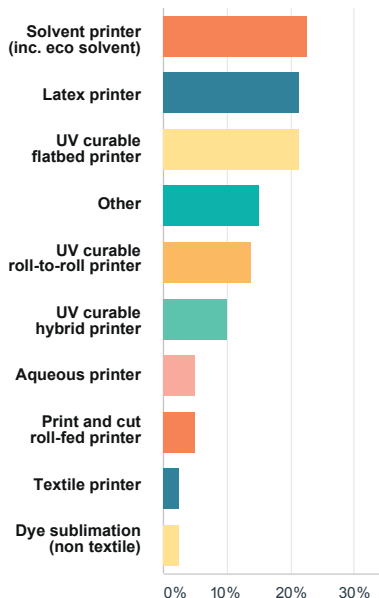
Q30 How are you expecting to invest in new equipment/products across your business in 2018 compared to 2017?



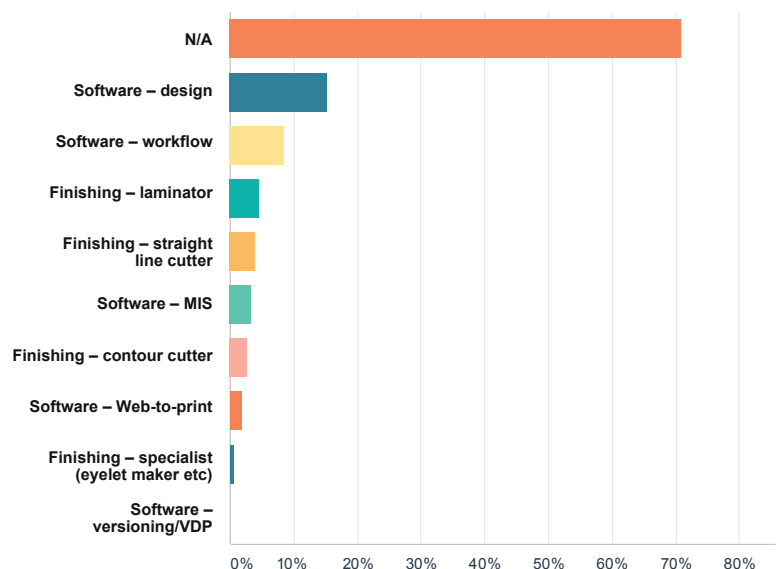
Q31 Do you expect to buy a new digital wide-format printer in the next 2 years?



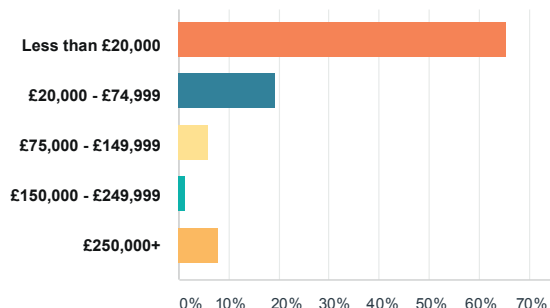
Q32 If yes, which type of digital wide-format printer do you expect to buy?



Q33 Do you expect to invest in any of the following for wide-format in the next 2 years?



Q34 In total, how much do you expect to invest in the wide-format technology over the next 2 years?



the UK/Ireland. The drive to expand capacity does suggest that PSPs believe there is demand out there. Yet the focus on cost implies that prices are not as firm as they might be. This divergence is reflected in the latest technical trends report for Drupa 2020 which concluded that, across all the print sectors, “printers report that the squeeze on prices and margins continues and is coped with best by ever-increasing utilisation and hence revenues while keeping costs as steady as possible”.

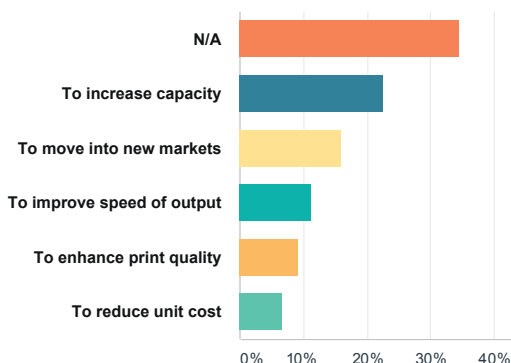
PSPs are looking to suppliers to help them achieve this: 23.0% say they want innovations to lower running costs and 13.0% say suppliers should focus on lowering the cost of capital investment. Reliability and running time were of great concern to 13.7% of respondents and 8.8% were primarily interested in machines that lasted longer.

That said, PSPs seem pretty content with their suppliers: 56.3% reported no major technical issues. Consumables (inks and media) were the chief worry - their reliability was an issue for 18.5% of respondents. Almost one in ten said their greatest technological concern was colour management. Given the variety of printers, inks, media, Rips and settings - and the cost of waste - it is probably surprising that this isn't more of an issue.

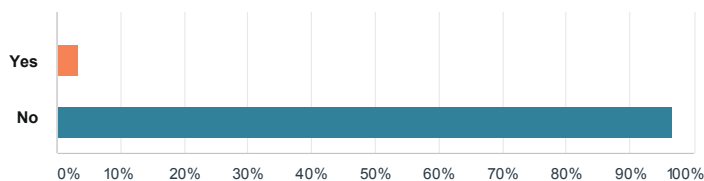
The sector's technological priorities, as revealed in the 2018 Widthwise Survey, seem logical enough. What they do not suggest is that many of the UK/Ireland's wide-format printers have been tempted to embrace all the brave new worlds that suppliers are promoting. We continue to see a profusion of new textile printers hit the market, but only 2.5% of Widthwise respondents say they plan to invest in one. Even fewer PSPs seem interested in inkjet printed-packaging, the other oft touted vertical ripe for large-format diversification.

It is tempting to criticise the industry for being too risk averse and lacking vision. Digital technology

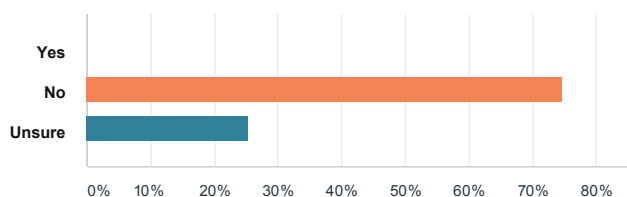
Q35 What is the rationale behind your planned investment technology?



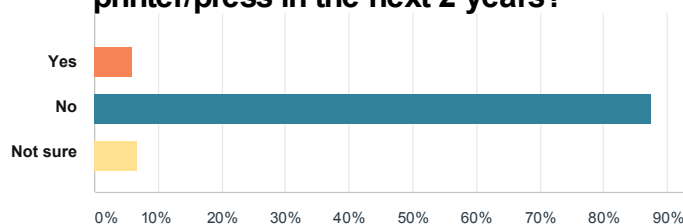
Q36 Have you invested in Industry 4.0 technology (e.g. the Internet of Things, artificial intelligence)



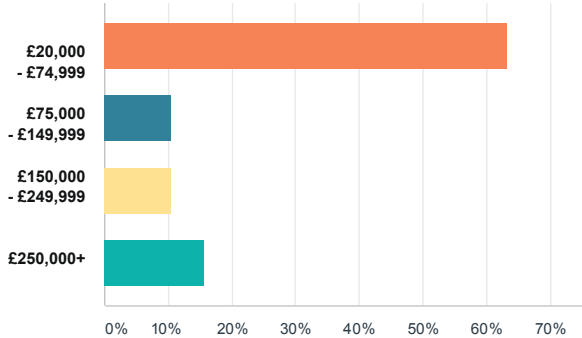
Q37 If no, do you plan to in 2018?



Q38 Do you expect to invest in a new narrow format / production digital printer/press in the next 2 years?



Q39 If yes, in total, how much do you expect to invest the narrow format/production digital print processes over the next 2 years?



has created a wealth of opportunities - it's almost mind-boggling to contemplate all the substrates/surfaces that can now be printed on - but PSPs have to consider whether these are aligned with their business goals or whether they are compelling enough for strategies to be revised, tweaked or discarded in pursuit of a fresh start.

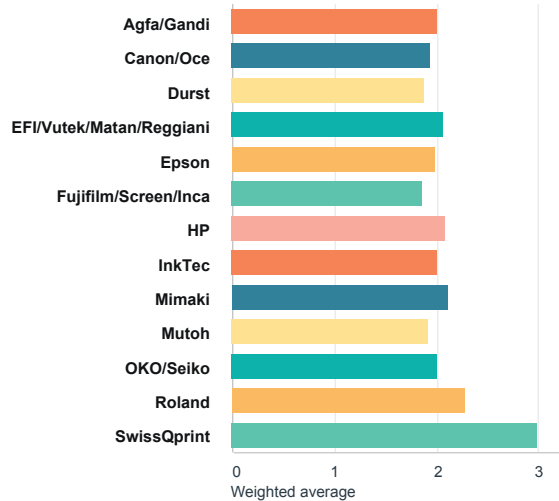
It may well be that new technology is more effectively deployed with the aim of adding value for existing customers.

This inherently cautious approach does suggest that, by 2030, Amazon's Alexa (or it's equivalent from Google or Apple) may not be selling a lot of wide-format print after all. That said, we are right at the start of what management consultants Gartner call the "technology hype cycle" with Industry 4.0.

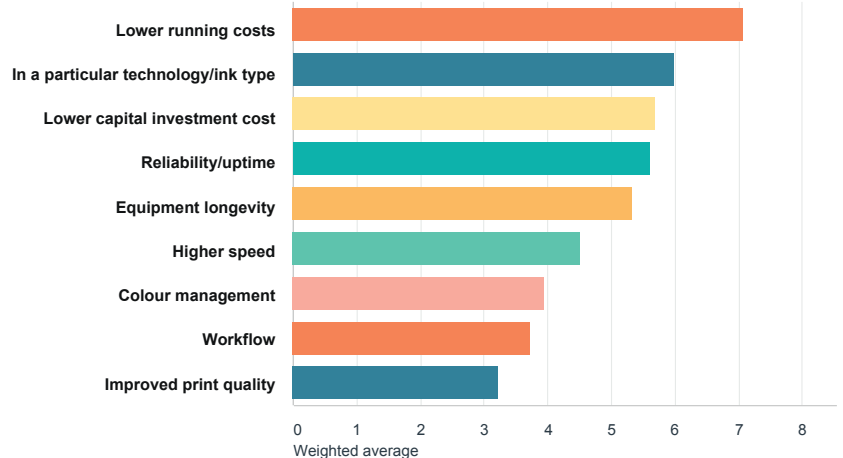
Innovation has been triggered - and early proof-of-concept stories have already begun to raise expectations. A few successes have fed the hype but we will, according to Gartner's theory, see interest wane as those examples turn out to be more problematic than originally suggested. At this point, expectations plummet into the "trough of disillusionment" and the technology will be, prematurely, written-off before, in a repurposed form, it will prove its merit and, as it raises productivity, be accepted by the mainstream.

In the case of the Internet of Things - especially AI, robotics, VR and AR - Gartner estimates that mainstream adoption is probably ten years away. Digital disruption may then transform wide-format print in ways we cannot presently imagine. Who knows? By then, Alexa - or her AI-empowered heirs - may be doing far more than just taking orders and blockchain might have finally put an end to invoices. That's certainly feasible. Mind you, don't be surprised if UK/Ireland-based PSPs are still ordering a surprising number of solvent printers. The future is seldom as clear cut, logical or tidy as we imagine it will be. ●

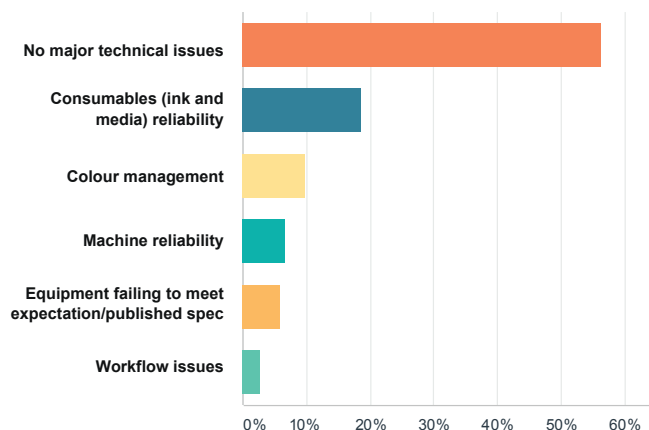
Q40 From the list below, which 3 large-format inkjet printer manufacturers do you consider the most innovative (Rank 1-3, 3 being the most innovative)



Q41 Where would you like to see more innovation in wide-format? (Rank 1-9, 3 being the most innovative)



Q42 What is the biggest technological issue you face in wide-format?



View from the vendors

The Widthwise Survey collects data from PSPs, but what about data from your suppliers? Here Peter Mayhew, director of Lightwords, provides analysis of the 2017 figures collated from hardware manufacturers and OEMs within the large-format inkjet sector.



The UK wide-format channel grew significantly during the past 12 months. Before 2017 commercial printers had been slow to catch onto the opportunities presented by wide-format - surprising given their understanding of cross-platform marketing. But last year they awoke and as a result, we will soon reach the point where almost all commercial printers offer a wide-format print service of some description. Lightwords estimates that revenues generated by the wide-format sector expanded by over 7% versus 2016, driven largely by the growing number of wide-format printers operating throughout the UK. This led to some change in the reseller landscape.

Following the acquisition of CWE Solutions by Papergraphics, distributor Westcoast absorbed ArtSystems, one of the leading channel partners for wide-format products in the UK market. Westcoast then went on to take a 50% stake in Perfect Colours. The Westcoast stake in the UK wide-format market, although difficult to measure, probably rivals or now exceeds that of Spandex Ltd.

There was also considerable activity in the past year among the UK's leading print service providers (PSP's). There is a point in the growth of a PSP when, to sustain or increase profitability, top line revenue requires a step change. That number is probably around the £10m mark in annual turnover. There are different ways for PSPs to grow. Some believe that investment in capital hardware will drive the business into new markets.

Figure 1. Selected UK Wide Format Market Focused Companies

Company	APRIL 14/15 FINANCIAL YEAR		APRIL 15/16 FINANCIAL YEAR			APRIL 16/17 FINANCIAL YEAR		
	Accounting Year End	Turnover (£'s)	Accounting Year End	Turnover (£'s)	% Change 14/15-15/16	Accounting Year End	Turnover (£'s)	% Change 15/16-16/17
SPANDEX LIMITED	30/04/2015	£35,800,000	30/04/2016	£40,895,000	12.5%	30/04/2017	£43,548,000	6.1%
ART SYSTEMS HOLDINGS LIMITED	31/12/2014	£30,481,829	31/12/2015	£30,717,845	0.8%	31/12/2016	£31,950,463	3.9%
METAMARK (UK) LIMITED	31/03/2015	£23,948,278	31/03/2016	£26,053,474	8.1%	31/03/2017	£29,348,962	11.2%
PAPERGRAPHICS LIMITED	31/12/2014	£16,601,250	31/12/2015	£17,525,472	5.3%	31/12/2016	£25,432,837	31.1%
PERFECT COLOURS LIMITED	31/08/2014	£15,363,982	31/08/2015	£18,252,151	15.8%	31/12/2016*	£30,146,788	n/a
LITHO SUPPLIES (UK) LIMITED	31/12/2014	£14,690,559	31/12/2015	£17,528,445	16.2%	31/12/2016	£17,128,573	-2.3%
STANFORD MARSH LIMITED	31/01/2015	£14,195,236	31/01/2016	£14,542,440	2.4%	31/01/2017	£15,104,121	3.7%
CWE SOLUTIONS LTD	31/12/2014	£14,112,116	31/12/2015	£11,716,375	-20.4%	31/12/2016	£2,705,516	-333.1%
HYBRID SERVICES LIMITED	31/09/2014	£13,520,130	31/09/2015	£15,263,860	11.4%	31/09/2016	£15,779,686	3.3%
ALLPRINT SUPPLIES LIMITED	31/12/2014	£11,049,297	31/12/2015	£13,058,867	15.4%	31/12/2016	£14,770,676	11.6%

*Accounting Year End Date Change.

Source: www.gov.uk/government/organisations/companies-house ©2018 Lightwords Ltd. www.lightwordsimaging.com

Figure 2. Selected UK Wide Format Print Service Providers

Company	APRIL 14/15 FINANCIAL YEAR		APRIL 15/16 FINANCIAL YEAR		% Change 14/15-15/16	APRIL 16/17 FINANCIAL YEAR		
	Accounting Year End	Turnover (£'s)	Accounting Year End	Turnover (£'s)		Accounting Year End	Turnover (£'s)	% Change 15/16-16/17
INSPIRED THINKING GROUP (ITG) LTD	31/08/2016	£60,981,709	31/08/2016	£75,838,000	19.6%	31/08/2017	£82,141,000	7.7%
DELTA DISPLAY HOLDINGS LIMITED	31/12/2014	£65,639,950	31/12/2015	£66,873,329	1.8%	31/12/2016	£69,962,841	4.4%
AUGUSTUS MARTIN LIMITED	31/03/2015	£56,902,039	31/03/2016	£50,017,775	-13.8%	31/03/2017	£49,000,000	-2.1%
SERVICE GRAPHICS LIMITED	31/07/2015	£39,222,766	31/07/2016	£38,956,273	-0.7%	28/07/2017	£40,453,247	3.7%
KOLORCRAFT LIMITED	31/12/2014	£22,279,289	31/12/2015	£21,222,537	-5.0%	31/12/2016	£23,568,674	10.0%
ULTIMA DISPLAYS LIMITED	31/12/2014	£16,613,389	31/12/2015	£17,993,096	7.7%	31/12/2016	£17,510,830	-2.8%
SIMPSON PRINT LIMITED	31/10/2014	£11,570,034	31/10/2015	£11,483,532	-0.8%	31/10/2016	£11,682,661	1.7%
MORGARD COURT LTD (GARDNERS)	31/07/2015	£9,876,849	31/07/2016	£9,114,926	-8.4%	31/07/2017	£11,379,019	19.9%
CESTRIAN IMAGING LIMITED	30/09/2014*	£17,558,436	30/09/2015	£11,254,617	N/A	30/09/2016	£11,090,272	-1.5%
A H LEACH & COMPANY LTD	31/03/2015	£8,923,056	31/03/2016	£10,071,904	11.4%	31/03/2017	£10,999,908	8.4%

*Accounting Year End Date Change. Source: www.gov.uk/government/organisations/companies-house ©2018 Lightwords Ltd. www.lightwordsimaging.com

Others prefer to merge or acquire competitors. 2017 saw some of the leading UK PSP's taking both approaches.

The Inspired Thinking Group grew into Studio and Digital services, increasing total revenues by 7.7% versus 2016. Meanwhile, revenue at Delta Display increased by 4.4% to reach nearly £70m by broadening the company's reach into Europe.

KolorKraft invested £1.3m in new kit and subsequently increased its turnover to £23.5m, an increase of 10% compared to 2016. Many of the largest UK PSP's saw top line turnover increase significantly and we do not see that growth trend changing much in the next few years.

Before starting to drill into the 2017 numbers from Lightwords' research, let's first explain the methodology. Lightwords is a market research agency with a team of analysts focused on digital imaging markets. The primary business is custom research and consulting, meaning that clients - including major industry manufacturers (OEMs), distributors and investment groups - come with projects to deliver insights into "difficult-to-reach" imaging market niches.

To complete its work, Lightwords conducts extensive analysis of tracked data received from the industry's hardware and supplies OEMs. It also uses this data to forecast market size and trends in the large-format, document (A4 and A3) and commercial digital printing markets - and carry out this work in all regions and many countries around the world. For the Lightwords analysis of the UK market in 2017, the UK and Ireland are considered as a combined entity.

Let's start by looking at installations of wide-format printers since this is what primarily drives overall consumption of media and ink. 2017 saw

total installations of wide-format printers in the UK market grow by a modest 1,400 units. This number would have been higher had it not been for a significant decline in the installations of aging aqueous inkjet printers.

The profile of the UK printer population is also changing. Although printers for computer aided design (CAD) output continue to dominate the landscape, in the graphics segment there is a rapid shift towards a mix of solvent, latex and UV hardware due to accelerating demand for key applications produced by these different ink technologies.

Overall, the UK market saw sales of just under 9,000 wide-format printers in 2017, that's up 2.9% on 2016. Of this number, sales of lower value CAD printers accounted for a major portion of total printer sales. These CAD printer sales were driven by large construction projects in the UK with projects like Crossrail and HS2 and, with increases in house building, we can expect this trend to continue.

2017 also saw increased sales of large-format multifunction printers (printers with scanning capabilities) used in architectural, engineering and construction (AEC) industries and, for graphical information system (GIS) applications. Both Canon and HP introduced new multifunction models that also featured faster speeds and improved fine line printing that specifically address these markets. Resellers are targeting these new inkjet products as replacements for older, slower and expensive to run, toner-based large-format printers.

The market for large-format inkjet printers with a 'full-width' printhead also targets, in part, CAD applications. Lightwords estimates that unit sales of these highly productive printers within in-house reprographic departments and PSP's increased by

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40% in 2017. The addition of multi roll feed and fast printing of A1 sheets helped to accelerate sales of these products.

The graphics market is a very different proposition to that of the CAD market of course. As mentioned earlier, the population of aqueous graphics printers continues to decline as they are replaced by printers with similar resolution and colour gamut using alternative ink technologies. The previously core market of 42in and 60in aqueous graphics printers endured its second consecutive year of declining unit sales, reducing installations of these printers by 8% when compared to 2016.

The aqueous graphics inkjet market has matured to the point where there was little innovation from printer manufacturers in 2017. Canon did launch a 12-colour imagePrograf 6000 for those requiring the highest quality, photo output. But, it's difficult to see where this 'quality' end of the market goes from here. Print quality is now exceptional, even with lower cost models.

One bright spot is that shipments in the UK of papers and films specifically compatible with, and consumed by, aqueous CAD inkjet printers exceeded 20m m² in 2017. Meanwhile, as a reflection of their declining use, installations of aqueous graphics printers consumed 15m m² of papers, films and other media. Regardless, installations of CAD and graphics aqueous wide-format printers still account for a significant portion of UK ink sales.

Solvent printers continue to be a mainstay for PSPs in the UK and in 2017 the data shows only minimal change in this regard. Demand for replacement solvent printers, worldwide, is however slowing. This is because increasing environmental regulations are forcing solvent devices out of the market. In 2017 hardware manufacturers sold about 30 fewer solvent inkjet printers in the UK, compared to 2016. Regardless, consumption of media through solvent ink jet printers was up by 3m m² compared to the previous year.

Since their introduction, UK service providers have been buying latex printers in increasing numbers as demand continues to build. The technology is benefiting from the same environmental and safety concerns effecting sales of solvent printers. New models introduced in the UK market by HP have helped to increase their affordability, driving installations now to over a 1,000 units in active use. Lightwords believes that their popularity will continue to increase. Media used by latex printers also increased sharply in 2017 compared to the previous year, rising by 22%. Banner products have proved to be a particularly

popular media for these printers. Ink consumption also increased by 26% versus 2016 levels.

The UK's market for UV-curable products, whether roll-to-roll, flatbed or hybrid was also strong, with over 300 units sold in 2017. Customers had lots of choices with many vendors introducing new products, especially into the LED segment. Over 50m m² of media were printed by UV-curable printers in 2017, a substantial increase over the previous year.

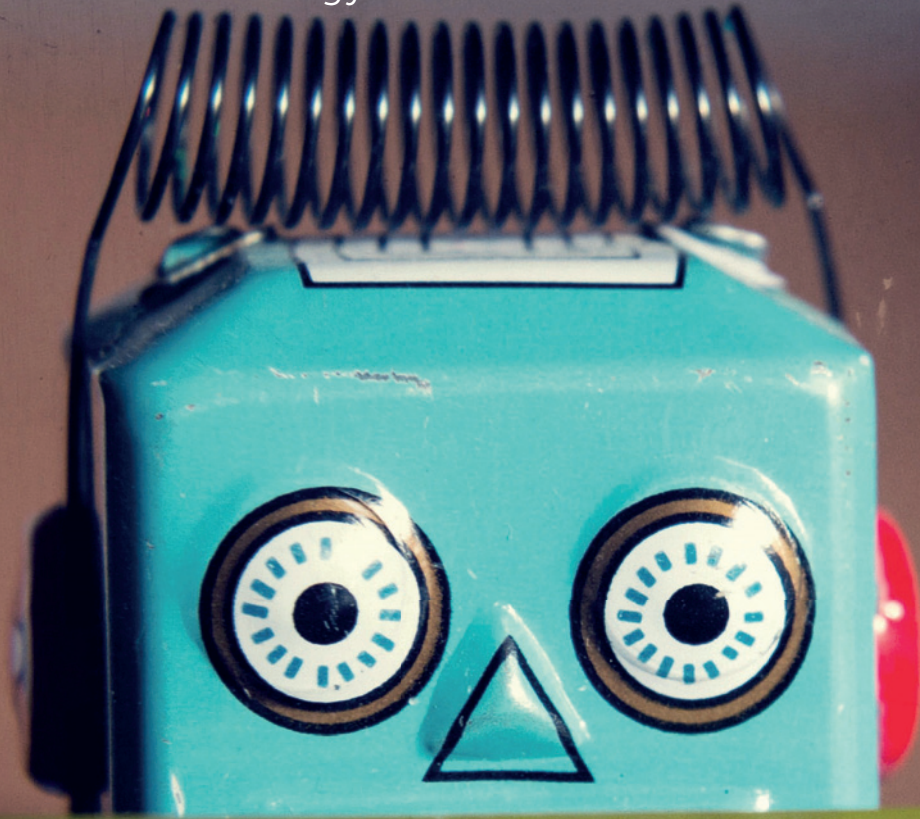
Turning to the subject of ink, wide-format printers of all types in the UK, during 2017, consumed approximately 2.3m litres of ink. Until 2017, solvent ink was the most popular type of wide-format ink sold in across Europe. But, consumption of UV curable and Latex inks combined, exceeded total solvent ink consumption for the first time, last year.

There is a growing demand in the UK for dye-sublimation printers to produce a range of textile based, digitally printed applications. Vendors have been quick to respond to this interest with new products that feature better performance. We note that the consumption of dye-sublimation paper was up 11% over the previous year.

The direct-to-garment market saw similar growth. In 2017 most of the major OEMs introduced new hardware platforms into the UK market. Meanwhile, media resellers took aim at the digitally printed textile market in the UK with numerous products targeting applications from lightboxes to upholstery. Interestingly, Lightwords notes that it may not be conventional PSPs investing in this market - rather, a new breed of owner with a long history of analogue based, textile printing adding new digital capabilities to their production capability.

During 2017 Lightwords examined the market for wide-format cutters and it will be of no surprise to note that the vinyl cutter market in the UK, in terms of unit sales, outpaces the flatbed cutter market by approximately 12 to 1. There are some pockets of growth in the flatbed cutters market, especially as manufacturers are innovating with differing types of cutting technology, methods of optimising media and, speed of media transport across the platen.

Finally, looking at the UK market in total, Lightwords estimates that in terms of hardware, media and ink revenues only, the market grew by £60m. Overall 2017 was a good year for all, if you focused on your business goals and offered competitive solutions. There are uncertainties on the horizon but, there is momentum, which could carry the market through. ●



Scanning for likely technological impacts

In 15 - 20 years AI could be steering your PSP. Don't believe it - read on...

Does the very idea of a 'work/life balance' seem like a pipe dream to you? Do you wish your senior managers were 20% more competent than they actually are? And do you suspect that you're not getting the data you need to make the right decisions?

Worry not, the solution to all these problems is at hand. Well, not at hand precisely. But it may be at hand in ten years time. As one consultant said (off the record) recently: "We can already see a point in the future where AI can not just manage vertical processes - such as production or HR - but provide the engine that drives the company forward."

In other words, in 2028 - or maybe a bit later, this being still a relatively immature technology - the managing directors of wide-format printers will be able to let AI take the strain. The question is: will they want to?

Despite the allure of golf courses, cruises and the chance to indulge in such hobbies as equestrianism

and deep sea diving, the best guess is probably not. We have been fed enough sci-fi tropes in which robots take over the world, making humanity redundant, to encourage us to inwardly rage against the machines.

We are also hard-wired to trust what we call our gut instinct - which, in practice, often amounts to little more than the prejudices we have honed with our selective memories of experience - even when we are faced with a mountain of evidence that contradicts our view. This prejudice - pride in graduating from the 'university of life' and the current fashion for deriding 'experts' - is about to face its sternest test ever. Let's face it, shouting 'And what do you know?' at an AI-powered system that has analysed 10,000 key bits of data to recommend a decision is not the act of a rational manager.

Whether you regard this as a dystopia or a utopia, this AI-empowered enterprise will take time, patience and money to construct. And it will only happen at companies that are prepared to experiment, make mistakes, learn and move on. Using AI will not be like signing off on a fab new management information system. The mantra at KPMG, one of the management consultancies that



is advising companies on the application of this pioneering technology, is that AI is something you build, rather than buy.

That said, there are already a host of start-ups that promise to apply AI to a whole host of tasks - from recruitment to pricing. At first, these new companies will be of most interest to multinationals that can afford the price of entry and to take the risks. Yet, as we have seen with computers, as AI becomes proven, its capabilities will increase and its cost decrease. We are, as the forward-thinking American scientist Ray Kurzweil has said, living in an exponential age. And the exponential age of AI could, in 15-20 years time, create a reasonably affordable engine that could effectively steer a print service provider. Even before that, the idea of a print floor being run by AI seems a realistic possibility.

At some point - and we're maybe talking 25 years from now - AI will cease to be a form of competitive advantage, it will be as common as electricity. In this scenario, the specialist knowledge a printing company has acquired over decades could be absorbed, studied and analysed by an AI-powered system in a matter of hours or days. At this point, ironically enough,

we could well get back to a situation where the competitive advantage between two wide-format printers is the human factor. AI systems can shape the future because they understand the past data more thoroughly than we do, but they will struggle to make the imaginative leap that inspired Surrealism, James Joyce's 'Ulysses' or, for that matter, the first wide-format vehicle wrap.

The challenge for the wide-format print sector is that many of its customers are large - and rich - enough to be early adopters of AI. This does raise the possibility of a human v machine negotiating process which, you fear, may not end well for homo sapiens. If printers employ AI too, the outcome could be even more fascinating. Negotiation, we know, is a business in which both sides make face-saving concessions. How do you factor such considerations into an AI-empowered procurement system? With impeccable logic, both parties in the negotiation may refuse to compromise, leading to deadlock.

New technology is going to revolutionise the way wide-format printers do business. That is a given. The hard part is assessing the scale, timing and significance of change. Yet the wide-format sector would do well to redirect its gaze away from robots and chatbots and focus its minds on AI.

The scary headlines about robots 'stealing' our jobs - and, depending on which study you believe, they could take over 9-40% of human occupations - obscure the fact that they may be less transformational than AI. Robots have a lot of hardware - which comes at a cost - and will, initially, be best used on specific repetitive tasks. For broader tasks, AI-powered software will almost certainly be a lot cheaper - and more capable.

Many other technologies will be touted in the media over the next few years. Some may yet prove themselves - it still seems too early to write off 3D printing (or, as it is more accurately called, additive manufacturing) - and some will become inescapable - the Internet of Things, which few printers in the 2018 Widthwise Survey have shown an interest in, being an obvious example.

What is clear is that, as Martha Lane Fox, the brains behind Lastminute.com, put it recently: "The pace of change you are experiencing now will be the slowest rate of change you will experience for the rest of your working life." Although many British print service providers are understandably preoccupied by the manifold mysteries of Brexit, the advent, application and development of artificial intelligence will have a much greater say on the shape of the industry in 2030.

AI has made predictions even harder - especially where the future is concerned! ●

Where now?

As R&D continues apace we ask key manufacturers for their take on the direction of technological development within the large-format sector and on the considerations PSPs must take into account.



Joey Kim
MD, InkTec Europe



Tudor Morgan
Sign and display segment manager,
Fujifilm Graphic Systems Europe

Printers obviously want to increase their profits, but there needs to be a fine balance between how this can be achieved and the practicalities of delivering in a timely manner. Many are seeking to broaden their offering with interesting and more profitable applications that will bring customers in. There is also a battle going on as some large scale industrial businesses seek to create an in-house printing operation to minimise their external costs.

At its simplest level from a manufacturer's perspective, there is much that can be done to raise awareness on what wide-format digital printing can bring. This involves engaging with the market to explore every aspect that is available to a printer and looking at the total solution rather than at the parts. This applies to both those that have been long-term in this specific industry sector, and to those that may not currently be in large-format printing.

From a machine perspective this is about showcasing flexibility. Potentially this could be simply about celebrating the options available in terms of printer size, speeds and ability to print on a vast range of different media. Key to this will be creating printers that are capable of doing so much more than one specific type of job. There are some great innovations happening on this front, including from InkTec where there are several projects on the go including development of LED UV printers, developing single pass metal sheet printers and inkjet label printers. Equally, a number of the latest ink developments being worked on include a printed electronics production line, Silver Nano ink, printed memory boards, flexible PCB, reflective film, ink for metal sheet printing and EMI Shielding Film.

In terms of direction, it is much more about creating total solutions that will simplify processes, create more innovation and ultimately increase profit. This is likely to fall within every aspect from inkjet applications, media development, printed electronics or industrial machinery all for the wide-format digital inkjet market.

The drive to cut waste and lower energy consumption will continue - in part a cost-saving measure, but there is also increasing pressure being placed on printers by customers, and by government, to be as environmentally friendly as possible. This shows every sign of stepping up and becoming an even bigger issue over the next few years.

Technology has a key role to play here and when it comes to 'green' print technology, Fujifilm prides itself on being a step ahead. The increasing popularity of LED UV is an important example of this. Lowering energy consumption, reducing waste and allowing thinner and more environmentally friendly substrates to be used, LED UV is having a powerful and positive impact on environmental standards in the wide-format sector. At Fujifilm we're proud of the role we played in pioneering LED technology.

The increases in quality we've seen in the sign and display sector in recent years have been substantial, and importantly, they have come with no loss in speed. Technological integration is critical here - a world-class printhead jetting substandard ink will do a substandard job, just as high-end ink will be largely ineffectual if run through poor quality heads. Genuine quality requires both consistent performance and reliability. Fujifilm, with its own printhead manufacturing company (Fujifilm Dimatix) and its own ink companies (including its facility at Broadstairs in Kent), is pushing the boundaries of both printhead design and ink chemistry to integrate these technologies ever further and maximise results.

As run lengths continue to decline, printers and manufacturers will increasingly look beyond their traditional applications and markets, so expect to see significant growth in textile printing, bespoke wallpapers, prototype packaging and all kinds of personalisation.

Increasingly, printers are seeing digital printing technology as something to complement and work alongside offset and screen processes rather than replacing those older technologies completely. Expect to see screen and offset printers investing in wide-format digital in increasing numbers in the coming years - not to replace their existing technologies, but to work alongside them.

At its core, most R&D in the next few years will be focused on performance optimisation. In responding to customer demand, PSPs will require ever greater levels of quality, speed and reliability - all while meeting increasingly stringent environmental standards. Wide-format manufacturers and technology developers will continue to invest to maximise results in this regard.

Wide-format manufacturers will also be looking at ways to adapt their sign and display sector technologies for new

markets. This is already a key Fujifilm strategy and we are seeing success with machines like the Acuity LED 1600 II, which is being adopted by an increasing number of packaging printers and is also finding a niche as a production machine for digitally printed membrane switch graphic overlays. Fujifilm's Acuity flatbed range has also found its own niche in the thermoforming sector, with a specially designed thermoforming ink range to complement it. Then there is the Acuity B1 offering numerous industrial applications.

Within the sign and display sector itself, technology is moving forward at a pace, creating new opportunities in smart signage in particular. Near Field Communication (NFC), augmented reality and similar technologies will all create fascinating possibilities in the coming years.



Phil Oakley

Regional business manager, large-format, HP

The opportunity to drive business transformation through print efficiency has never been greater. The latest generation of printers allows PSPs to move into new sectors, with minimal start-up costs. The latest technology can also help them access a wider range of commercial printing applications, driving PSPs to adjust their operating models to include a greater range of managed services. The associated impact on overhead costs will be huge. PSPs have always demanded greater print efficiency. Increasingly, print vendors are available to deliver just this, by integrating fast colour, and black and white printing, into a single device. The benefits of these multifunction devices are that floor space is saved, operations simplified, and turnaround times sped up, delivering up to 50% savings in total production costs.

The transformation from analogue to digital has taken both the interior decoration and soft signage industries by storm. When companies can digitise, mass customise, and even individualise, they have powerful tools to make their business stand out. Additionally, the growth of Latex offers exciting opportunities for designers, by allowing them to print their wildest ideas with self-adhesive vinyls, banners, papers, textiles. This in turn allows designers to offer customers customised wallpaper, canvas and other applications for interiors.



Peter Kettle

Business development manager,
UK and Ireland, Roland DG (UK)

Whether they are adding filters in Instagram or editing in Snapseed, everyone is becoming a pocket designer. Most are satisfied with digitally sharing these images, but, quite often, this is because consumers are unaware of the possibilities digital technology offers in terms of physical reproduction.

Perhaps those of us who have grown up with the evolution of print technology are guilty of believing we are still shackled by the same constraints of former traditional analogue technologies in terms of limitations in applications and market segmentation. Digital print technology allows us all to step outside what we thought our business was and expand our horizons to reach new customers.

2018 and beyond will see the expansion in the usage of digital print technologies across both B-to-B and B-to-C. The question is, what does the C stand for? Just take a look at notonthehighstreet.com, and what it says about both those with the desire to unleash their creativity for profit and also the demand from consumers for something more personal than what can be found on the shelves. In May 2017, Oxford Economics estimated that there were 134,000 small creative businesses, contributing £3.6bn to the UK economy. So, back to that C. Does it stand for 'consumer', or could it be 'creative'? Or, perhaps they are the same thing?



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We can all be pocket designers because the technology has made it not just possible, but simple. What innovation, then, needs to take place, in order to enable PSPs access to this new generation of creative customers? Actually, most of the hardware available already - UV cured ink means possible customisation of almost anything from mobile phones to drum sticks. Sublimation inks are producing not just flags, but Olympian sportswear. What needs to change is the old mentality that our range of products and services are restricted to what is written above our door. Knowledge, then, is an essential element in driving the future direction of digital printing.

As a manufacturer, we believe it is our responsibility to help users gain this knowledge and gain the maximum benefit out of their assets. That is why we have invested so heavily in our Creative Centres - to inspire users to explore their full potential. We are also expanding the Roland Academy to deliver knowledge on hardware, software and finishing techniques. And, we will continue to find ways to make the access to this

knowledge as easy as possible, both face-to-face and online.

How, then, will print technology change? When we expand our horizons to the possibilities of digital print technologies, we must understand that the one-size-fits-all approach is no longer sufficient. We will start to see a reduction in the physical size of some inkjet technology in order for it to fit in the retail environment or in the home. And, following the lead from mobile app developers, software will become more intuitive and content will be king. Personalisation to some might mean a picture of their cat on phone case, but to others, it offers the chance to customise a product with the pattern, texture or image from a famous designer or artist.

As the usage of print expands, so does the responsibility towards environmental and health considerations. Sustainable packaging is a hot topic, and quite rightly. So too should be our commitment in print, in all its forms, whether it is hardware, ink or media development.



Phil McMullin
Sales manager, Epson UK

Printers have two choices - to take the high volume, low margin commodity route or offer a service that is more consultative and provides bespoke and added value solutions. Wide-format technology lends itself better to this latter higher margin, service-focused business model.

PSPs are starting to recognise that they are the keeper of the brand for a client and as such can offer new ideas on how that brand could be further enhanced so diversification is going to continue for the foreseeable future.

In textiles we see dye-sublimation and DTG technology regularly being used for sampling, almost proofing, which is a throwback to Epson's large-format roots. But it is not just textiles that is a fashion-focused business - users of any type of print want to be topical and to reduce stockholding and waste. This is a pattern that will remain

and ensure a strong future for wide-format digital printing.

In parallel, I predict that suppliers like Epson will continue to expand the range of printers they offer for any particular application and also look for new applications for wide-format technology.

Epson remains committed to offering a wide range of solutions with a low cost of entry and remains unpartisan on ink technology - it embraces aqueous, eco-solvent, dye sub, resin, DTG, DTF and UV. One of its USPs is that it supplies its own manufactured printheads, inks and chassis so that it can optimise the colour control and quality of output.

An enormous sum - 140m Euro a day - is invested in R&D group-wide and that is an indication that there will be no standstill in the technology it can offer. ●

TECNAUK

TEN YEARS OF TECNA



We can't quite believe it, but Tecna UK recently reached its ten-year anniversary

We are simply over the moon, and it makes us so happy to know that we have been providing our wonderful clients with the "world's most innovative and versatile modular display system" for just over a decade now. In true celebratory fashion, we honour this momentous milestone in our company's history by taking a look back at just how far Tecna UK has come since its incorporation back in 2007.

The Start of Something Special.

It all began in 2007 when a young Simeon Wicks, now Tecna UK's Managing Director, returned home following a six-month break travelling abroad. Simeon, eager to delve back into the world of work, happened upon a sales position with an eccentric inventor who needed someone to sell his T3 modular display system. As soon as Simeon was introduced to this innovative display solution, he was completely taken aback. He had never seen a tool-less system like T3 before, let alone one as versatile and cost-effective as this.

“

We've got something here that could revolutionise the industry

”

After a few months of working for the inventor, the budding entrepreneur obtained the rights to T3 so that he could sell and develop its components through his own company; and just like that Tecna UK was born. Simeon truly believed in the T3 system, and he knew right away: "we've got something here that could revolutionise the industry".

One Bedroom, a Laptop, and a Vision.

For the next year or so, Tecna UK's headquarters were situated in the bedroom of a shared house in West London – not the most glamorous of workplaces. Geared with little more than a phone, a laptop, and his own business acumen, Simeon set about seeking out and contacting potential clients within the exhibition industry with unwavering perseverance; CDs were sent off to companies containing images of T3 products, and innumerable trips were made to the local post office lugging bags



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of samples to send out. At this point, our offering was limited to the original classic T3 beam and accompanying connectors.

The indomitable Simeon also worked tirelessly for hours on end to ensure that briefs and quotations were sent out to clients within 24 hours of their request, and there were nights when he had as little as two hours sleep; a 24-hour turnaround is something that we at Tecna UK still pride ourselves on doing for all our clients today.

A New Addition to the Team.

It wasn't long before Simeon's unfaltering efforts produced tangible results, with an impressive £300,000 turnover after Tecna UK's first financial year. But although this was fantastic news, an increasing interest in the T3 products meant that the workload was becoming too much for one man, so in 2009 Simeon enlisted the help of James Longley, Tecna UK's Project and Design Director and "second in command".

Together they moved Tecna UK's head office into Simeon's new house where, in light of recent developments in fabric printing, the T3 comb profile was created, "introducing a whole new world of T3" to clients.

Onwards and Upwards.

In 2010, the house was no longer feasible as a workplace for Tecna UK, so the company moved into a 1500 sq. ft. property in Chertsey, Surrey, which came equipped with a lovely, spacious warehouse. Soon after moving in here, our offering diversified and we started providing printing services for our clients, outsourced from neighbouring printing companies. The extra space in the warehouse also meant that we could start storing all of the T3 components - which enabled us to deliver to our clients at a much faster pace - as well as offering our pre-build service, so that we could guarantee beforehand that our clients' graphics fit perfectly with the T3 display.

While at Chertsey, our little family went from two to five and our business grew exponentially, and it was only onwards and upwards from there: thanks to the company's continuing success, we moved into an even bigger property in Egham, where we went from strength to strength and expanded into a team of twenty.

Our New Home.

In 2016 the Tecna UK family moved into our current home in Farnborough, where we now own a whopping 20,000 sq. ft. space to house our growing team and all of our fantastic T3 products. Since moving to Farnborough, we can proudly say that we have started to offer an installation service, in addition to providing training days for our clients to help them explore the true potential of T3.

The team here at Tecna UK functions like a well-oiled machine, and even though the company's year-on-year financial growth of thirty percent has been impressive to say the least, Simeon's greatest sense of accomplishment comes from knowing that his customers are satisfied, and from taking a moment to look around and see "a great team at work and enjoying themselves - it makes me feel proud".

Looking to the future, the Tecna UK team will continue to work together to realise our shared vision of leading the way with our innovative display systems through consistently surpassing our customers' expectations and continually innovating and diversifying beyond what we already offer.



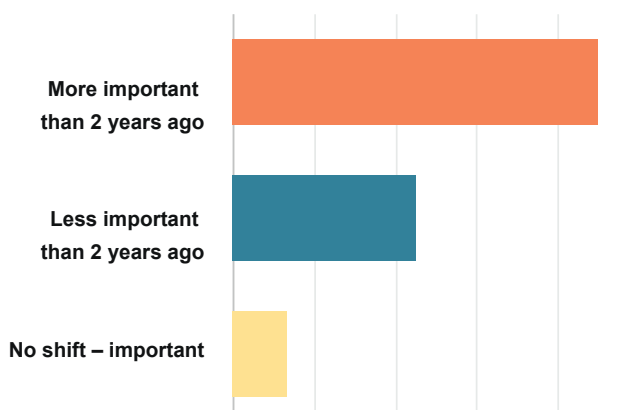
Plastic - not so fantastic

So what are large-format print companies going to do about its use?

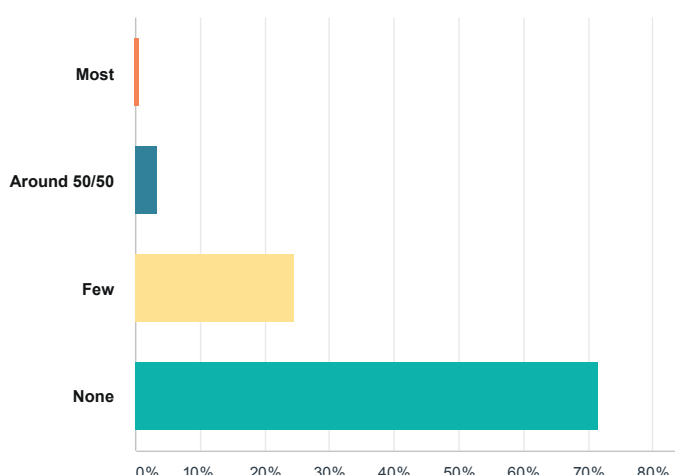
Plastics. That was the topic that dominated the conversation when 15 CEOs got together in April 2018 at a board meeting of the Consumer Goods Forum, a global body uniting brands and retailers. The war on plastics, ignited in part by Sir David Attenborough's exposure of the damage inflicted on the world's oceans in The Blue Planet 2 TV programme, is now part of the corporate strategy for such diverse companies as Coca Cola, Danone, Iceland, McDonald's, Marks & Spencer, Nestle, Procter & Gamble and Unilever. It has also become official policy in the UK, with the government aiming to eliminate all avoidable plastic waste by 2042.

For an industry such as wide-format print, which relies on plastic as a substrate, this paradigm shift cannot be ignored. Although, once again, the 2018 Widthwise Survey reveals that roughly seven out of ten print service providers say their clients never ask

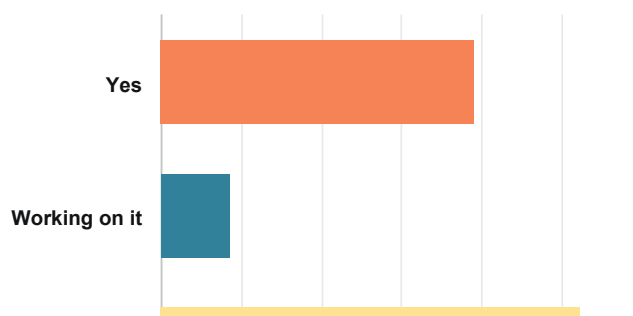
Q43 How important is it to offer 'green' print options?



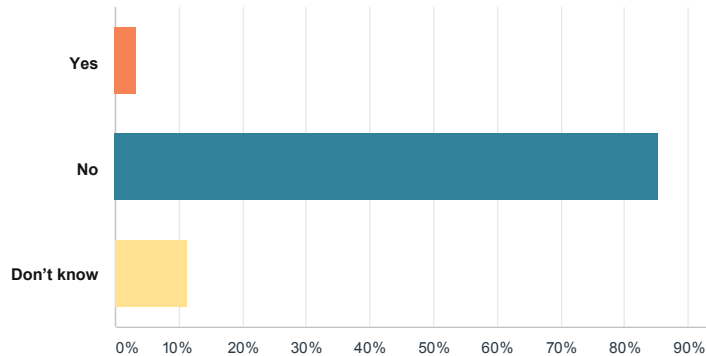
Q44 Do clients ask for your environmental credentials or ask for your sustainability plans?



Q45 Do you have environmental accreditations?



Q46 Do you expect clients to reduce or withdraw business because print is increasingly seen as environmentally unfriendly in comparison to other options?



about their environmental credentials, this may be the calm before a long, difficult storm.

This change is echoed by one particular Widthwise finding - 45.0% of respondents said it was more important to offer green print services now than it was two years ago and 6.6% said it had remained important. In this respect, printers may be slightly head of the market - 39.1% said they have environmental accreditation, while 8.6% are working on it.

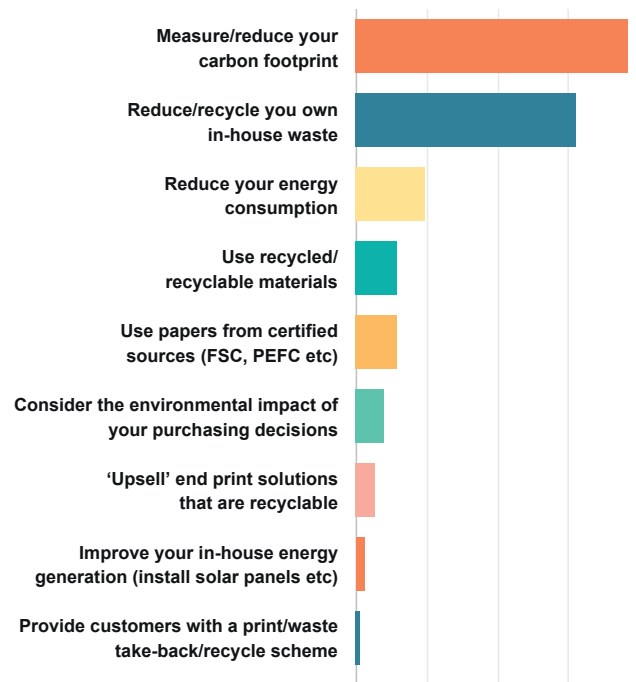
The UK wide-format print sector's environmental priorities over the next two years are pretty clear - 38.4% are looking to measure or reduce their carbon footprint, 31.1% aim to reduce and/or recycle their waste and 9.9% want to use less energy.

Recycling plastic isn't easy, as Mike Jackson, managing director of Prissm Environmental, wrote recently in Image Reports. To crack the issue, Jackson suggests, will require a "collaborative approach - with each other within the sector and with those in the recycling and waste management sector." That is the only way, he believes, that the industry can "design and deploy a single collection system/structure for the waste generated from large-format display print" in the UK.

That all sounds arduous and ambitious and, with only a minority of customers reportedly concerned about the environment, a bridge that could be crossed later. Yet the war on plastics is only going to gain momentum, driven, as it is, by an unlikely alliance of concerned consumers (not all of whom are Millennials), the 'Daily Mail', Sir David and global brands that want to do the right thing - or feel compelled to be seen to do the right thing.

Since the 2008 recession, conventional wisdom has suggested that sustainability has slid down the corporate agenda. Yet the furor over plastics suggests

Q47 What is your major environmental focus for 2018



otherwise. In a social media age, the global sharing of photos of turtles fatally entangled in plastic fishing nets has completely changed the conversation. The war on plastics is significant in itself - because wide-format printers use so much of it - but also as a necessary reminder that environmental issues can come out of nowhere with bewildering speed and wrong foot governments and companies.

Print service providers need to start walking the walk if they are to avoid getting entangled in a controversy that can only be bad for their business. ●



The circle of life

Make, use, throw away. That pattern needs to be broken, but to what extent are you buying into the circular economy?

In an age when the planet's resources seemed infinite, in a time when only a few scientific geeks even knew there was a thing called global warming, the linear economy - in which materials are grown or extracted, turned into goods and disposed of after use - seemed fit purpose. The flaw in this model - which has become more apparent as each passing year is dubbed "the hottest since records began" - is that economic growth relies on material consumption. Looking forward, we have two choices: accept that the economy will not only fail to grow but actually shrink or find a better model.

The first option is socially, economically and politically untenable - until we get a lot nearer the brink - so let's do what we can with the second. It is time to replace the linear economy with a circular one, in which we keep resources in use for as long

as possible, extract the maximum value from them while in use, then recover and regenerate products and materials at the end of their service life.

The concept of the circular economy has been around for years but Britain's PSPs (print service providers) are about to hear a lot more about it. The British government feels compelled to act because there are signs that the process of creating a sustainable economy is losing momentum. Household recycling rates have effectively been stuck at the same level since 2013 and, in 2016, fell from 44.7% to 43.9% - a small decline but the first drop since the Department for the Environment and Rural Affairs' records began. Explanations for this drop vary - some councils say they have had to slash spending on waste management - but everyone involved in the recycling system admits that it has serious flaws.

A circular economy can mean many things. For PSPs it will, as a minimum, increase the pressure to consume less and recycle more. It will stimulate the quest for environmentally friendlier options across the production process - from raw materials to inks to printers. For example, if a client enquired - as IKEA is asking its suppliers - 'can you convert waste into raw material for us?' what would you say?

The difficulty, as the 2018 Widthwise Survey shows, is that many buyers of wide-format print don't ask about their supplier's environmental credentials, a lack of curiosity that seems to have stayed pretty constant.

Suppliers can play their part too. Last summer, Motorola filed a patent for a self-healing mobile phone display. The design includes a "shape memory polymer" which could reverse, at least partly, any damage. In theory, a user could press a 'repair' button and the damaged phone screen could mend itself. Other companies and researchers want to develop self-healing for other applications, include polymers, concrete and rubber. With AI, wide-format printers could extend their useful life by self-diagnosing faults and instituting repairs.

There are two obvious problems here. The first is us - we are so primed to prize novelty that many of us regard having an old mobile phone as a social faux pas. The second is the companies that sell us stuff - whose business model is based on their ability to sell a specific number of new products, whether they are mobile phones or digital printers. Companies can manage this, by moving to a service model, as Rolls Royce has done, charging airlines for the amount of time its engines are in use.

The first challenge may be harder to deal with. Many of us are hard-wired to crave the newest, fastest, and most expensive. What is needed, as Dejan Sudjic, director of the Design Museum, argues, is a new consumerism that prioritises longevity over novelty.

The circular economy isn't a magical fix for global warming. It is part of the answer but only that. The bigger revolution to come - in which, like John Lennon, we imagine no - or very few - possessions is still decades away. ●



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