PRINTINGUNITED DIGITAL EXPERIENCE

FRIDAY, OCT. 30, 2020

GUIDE TO DAY FIVE:

GRAPHICS & WIDE-FORMAT Finishing & Workflow

INSIDE:

OVERCOMING CHALLENGES IN RETAIL GRAPHICS INSTALLATIONS

AIR POLLUTION REQUIREMENTS FOR INKJET DEVICES AND PRESSES

A CUT ABOVE THE REST

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WELCOME

Welcome to this special publication for attendees of the 2020 PRINTING United Digital Experience.

In June, PRINTING United announced the decision to transition from an in-person event in Atlanta, to a comprehensive digital platform. The PRINTING United Digital Experience, taking place Oct. 26 – Nov. 12, offers attendees three weeks of live, guided programming, educational sessions, and panel discussions with the experts; along with access to a complete online exhibitor showcase featuring information about the newest industry technology, case studies, whitepapers, the chance to speak with exhibitor representatives, and more.

Today is Day Five of this 14-day event. Focused on the graphics and wide-format market — specifically wide-format finishing and workflow — attendees have a packed schedule of content and product demos (see the detailed agenda on page 4).

This year has been a difficult for the wide-format and graphics market. According to the COVID-19 Print Business Indicators Report, October 2020, from NAPCO Research and the PRINTING United Alliance, there have been deep, wide-spread declines during the first half of 2020. Sales fell an average of 20.4% across the industry during the first six months of 2020 compared with the first half of 2019. Key parts of some businesses simply dried up — such as trade shows — while others had clients that simply could not survive and closed permanently.

Interestingly, 9.5% reported that sales increased during this time. What did they attribute their growth to? Their ability to quickly see the needs of their clients for PPE items, and respond rapidly to those needs. These companies pivoted from making traditional signs and graphics to producing face shields, barriers, facemasks, and COVID-19 messaging.

More than 42% of companies are expecting business to improve in the months ahead. And while this number is not as high as it was in June (46.4%), it does show a significant improvement from early spring when the number was at 15.2%. There's still a lot of uncertainty in the market about what the next month will bring, which is impacting these confidence numbers.

But what can you do to build a competitive advantage? The most effective method is by adding finishing capacity to your shop. Becoming a one-stop shop, adding fulfillment capacity, implementing lean manufacturing and continuous improvement principles, and adding new product lines also prove to be effective for companies looking to build their competitive advantage.

Where is the opportunity for growth post-COVID-19 — meaning the virus has not been eradicated but when we have learned to live with it? Print buyers are looking for the "Amazon effect" in the print industry, and expect to see easy, online ordering for print products. Antimicrobial graphics and films will also play a large part in the opportunities in the coming year. There are also ample opportunities within the home and recreational markets as consumers look to improve their work-from-home environments and personalize their recreational vehicles — like RVs and boats. The restaurant industry is also seeking creative ways to make customers feel safe — and this can mean opportunities for PSPs.

As a companion to the 2020 PRINTING United Digital Experience, these 14 special daily publications will provide attendees with a reference guide to the day of content, as well as much-needed insights into how print service providers can best position themselves now for the recovery — and growth — to come.

We hope this information will help serve as a valuable resource as you plan the next steps for your business, and determine where — and how — to expand and grow. 2

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TABLE OF CONTENTS

- 2 Welcome to Day 5 of the 2020 PRINTING United Digital Experience
- 4 Day 5 Agenda and Sponsors
- 6 Overcoming Challenges in Retail Graphics Installations
- 8 Air Pollution Requirements for Inkjet Devices and Presses

- **10** Philadelphia Eagles and Ricoh Deliver a Winning Play to HIp Fans Support Team and Charity
- **11** A Cut Above the Rest
- **14** Product Demo Videos
- **15** Products







AGENDA

DAY 5: OCTOBER 30, 2020

GRAPHICS AND WIDE-FORMAT: Finishing and Workflow

10:00 a.m.

RESEARCH: INDUSTRY OUTLOOK FOR WIDE-FORMAT FINISHING AND WORKFLOW

Presenter: Andy Paparozzi. Chief Economist, PRINTING United Alliance

How are sales and confidence trending for graphic and sign producers? Are we seeing any signs of an upturn? And how have some been able to grow through the COVID-19 crisis? This session addresses those questions, along with critical issues such how effective offering finishing services and streamlining workflow have been in creating competitive advantage, capital investment objectives, and post-COVID opportunity.

10:15 a.m.

KEYNOTE: BUILDING A MANUFACTURING MINDSET

Presenters: Ryan McAbee, Director of Print Production Workflow, Keypoint Intelligence, and Eric Zimmerman, Director of Wide-Format Printing, Keypoint Intelligence

With the rise of digital finishing equipment and intelligent workflow software, building an automated wide-format graphics factory is within reach. How has digital finishing equipment and workflow software changed to reflect the move from an "artsand-crafts" mindset to a "manufacturing" mindset? Why is this change critical to future success?

10:45 a.m.

PRODUCT DEMO: HP PRINTOS

Featuring a suite of unique and intuitive Web and mobile applications, PrintOS now enables print shops and corrugated converters to simplify and automate production of short-run packaging, signage, display, and decoration applications. These powerful apps running on the PrintOS platform bring cloud advantages, with low start-up costs, easy setup, unlimited capacity, and peace of mind with state-ofthe-art HP security.

11:00 a.m.

PRODUCT DEMO: FUJIFILM COLORPATH SYNC BRAND **COLOR OPTIMIZER**

Taking advantage of the wide color gamut already offered by Fujifilm's presses is the OEM's XMF ColorPath Brand Color

Optimizer that fine tunes the ability to print spot colors — and ensures that every spot color is reproduced as accurately as possible. The technology can be used to optimize any color library — including Pantone, HKS, and Toyo — to name a few.

11:15 a.m.

PANEL DISCUSSION: THE SCIENCE AND SKILL OF GRAPHICS INSTALLATION

Moderator: Ray Weiss, Director, Digital Print Programs, PRINTING United Alliance

Panelists:

Ken Burns, President, Axis Graphic Installations,

Pete Kouchis, President, VisuCom Signs & Graphics

Shane Lloyd, CEO, GeckoWraps

12:00 p.m.

PRODUCT DEMO: EPSON SURECOLOR S-SERIES SIGNAGE PRINTERS

Learn how Epson's SureColor S-Series signage printers combined with the latest cutters from Graphtec can boost productivity and capacity for print and cut applications.

Today's Sponsor:











Today's Sponsor:

12:15 p.m.

PRODUCT DEMO: AGFA OBERON RTR3300 AND TAURO H3300 S PRODUCT LAUNCHES

The Agfa inkjet portfolio can help print service providers (PSPs) expand and diversify their businesses. Agfa launched two new inkjet printers — the Oberon RTR3300, a 3.3m high-speed LED-UV roll-to-roll printer, and the Jeti Tauro H3300 S hybrid device.

12:30 p.m.

PANEL DISCUSSION: HOW A FOCUS ON FINISHING CAN HELP YOU FINISH FIRST

Moderator: Denise M. Gustavson, Editor-in-Chief, *Wide-format Impressions* and Editorial Director, Impressions Group, NAPCO Media

Panelists:

Richard Beto, Director of Document Solutions at the University of Texas at Austin

Craig Tinkelman, Owner, Quaker Chroma Imaging

Rapid advancements to printer technology pressure print providers to remain competitive by investing in faster, more efficient digital presses. Printer investments are often made without a thorough analysis of how added printing capacity affects the entire production workflow and the need for cutting and finishing. Gustavson talks with leading graphics business owners about why and how finishing equipment is essential to their business — and how it's impacted their growth.

1:00 p.m.

PRODUCT DEMO: A TOUR OF CANON SOLUTIONS AMERICA'S CUSTOMER EXPERIENCE CENTER

Take a tour of the Canon Solutions America U.S. Customer Experience Center, located in Itasca III., just outside of Chicago. The tour will give you a sense of the breadth and depth of Canon's Large-Format Graphics Solutions offerings, and includes the



brand new Arizona 2300 with Flow table technology, the Colorado 64" roll-to-roll graphics printer, the DGI series of dye-sublimation printers for soft signage and apparel applications, and Canon's new in-line Colorado Wall Covering print and finish factory.

1:15 p.m.

PRODUCT DEMO: ROLAND DGA IU-1000F HIGH-VOLUME UV FLATBED PRINTER

What do you need to consider when looking for a flatbed printer? Find out what the three top considerations are and get a deep dive into Roland DGA's IU-1000F UV flatbed printer.

Nearly 42% of wide-format sign and graphic print providers expect business to improve in the months ahead.

 Andy Paparozzi, Chief Economist, PRINTING United Alliance in the Industry Outlook for Wide-Format Finishing and Workflow.





Overcoming Challenges in Retail Graphics Installations

By Ray Weiss, Director of Digital Print Programs, PRINTING United Alliance

Installing vinyl in a retail environment can be a challenge — one that can be overcome with careful planning and a willingness to rise up to those challenges. I spoke with Kristin Lanzarone, owner of WrapStar Pro and a member of the PDAA steering committee, based out of Sacramento, Calif.; and Tasha Marohn, owner of TM Motorsports Imaging, and a member of PRINTING United Alliance, based out of St. Paul, Minn., about the experience that they have gleaned and any tips they might offer to other installers when preparing to install graphics in a retail environment.

The first question I had was regarding after-hours installations, which are the norm in a retail environment. Lanzarone shared that it's important to be well prepared, and have all the necessary tools and equipment to get the job done. "I always over prepare, bringing two of every tool and the proper ladder/scaffolding setup that may be needed. I also make sure to have simple generic tools like a flat-head and Philips screwdrivers. I've shown up on installs and there are surprises you run into that were supposed to be handled before you install. For example, TV & TV mounts, outlet plates, surveillance cameras, lights, etc. Having those generic tools can make the install run smoothly. Always show up expecting surprises."

Marohn shared that she likes to have a second person for after hours installs in case something goes wrong. She also notes, "have a contact person available that can make last-minute decisions on situations that may arise during installation. For instance, parts missing, wrong size graphics, or placement that does not match the visual layout given prior to install. Trying to figure out someone else's vision for a project and possibly getting it wrong is never a good idea."

Lanzarone had one last note on after hours installs: "make sure you have your tools guarded or on watch at all times. The worst thing is to have your tools go missing, and you can't complete the job in time."

Have the Right Process in Place

The next question was regarding involvement in the process – paint selection, graphics choice, vinyl selection, etc. Marohn says that when doing window graphics especially, it is important to verify guidelines and graphic standards for each city and neighborhood. "Don't rely

on the client to get all the correct information," she says. Marohn also noted that an early challenge she experienced was working with a restaurant and she had, "designed and installed a store front entrance, spending time and money into a complete redesign, only to have to remove it three weeks later because the city only allowed 30% coverage of a window area."

Lanzarone agreed, noting, "as a printer and installer I'm usually involved in the early stages of a project. Having a degree in interior design helps, and sometimes the client will implement my vision or design suggestions." She also notes that it's important to make sure the right materials are being chosen for the project, as well. "I do adhesion tests and in more humid environments, such as workout gyms, salons, and spas, I will leave the test on the wall for a few days to see how the adhesive is performing. If a sample is lifting, then I know I need a more aggressive adhesive."

Marohn also says, "it's important to set realistic expectations on how long a floor graphic will last, and to have a follow up maintenance plan to replace damaged graphics depending on mopping with chemicals, foot traffic, etc."

Overcoming Challenges

Lastly, I asked each of them to share a challenge they faced, and how they overcame it.

Lanzarone shared a story of one of her first retail installs at the Embarcadero outdoor mall in San Francisco. "The job was an overnight gig starting at 9 p.m., and had to be completed by 7 a.m. the next morning. I was hired on as an installer to be teamed with two others. We had 12-ft. by 300 yards of temporary construction wall wraps for a new Sephora being built out. When walking the job site, the lead installer's roll away tool case was stolen. I learned then the downside of using roll away cases or bags when in an environment that is not secure. As a former trained police officer, I take self-protection and personal safety in vulnerable situations seriously, and as I'm a legal concealed weapons carrier, my fellow installers felt safer knowing that I was carrying that night. The three of us installed three football field lengths of wall graphics within seven hours."

Marohn also shared a couple of her challenging installs. "I was installing a wall wrap in an El Burrito in Minneapolis, and ran into an issue as the HVAC wasn't working. This was a mid-summer install, and the graphic was for their grand opening. Because the room was so hot and humid, I had to reprint and choose a more aggressive adhesive vinyl for it to stick correctly." She also notes that in Minneapolis, projects don't stop because of the winter cold. "Explaining to clients that vinyl does not stick in some temperatures, and adhesives do not cure as they should in the correct environment. This may call for special vinyl, higher costs for the vinyl, and more time on the install. Dealing with ladders in the snow, shoveling snow before starting the install, and more heat gun time are all part of that equation."

Thank you to both Kristin Lanzarone and Tasha Marohn for sharing a few of your tips and challenges. This is great information and may help someone avoid one of these challenges in the first place. **2**

When installing window graphics, it's important to verify guidelines and graphic standard for each city and neighborhood, as they vary. Credit: TM Motorsports Imaging.

Air Pollution Requirements for Inkjet Devices and Presses

By Gary A. Jones, Director of EHS Affairs, PRINTING United Alliance

The continued growth of inkjet devices and printing presses shows the technology is finding acceptance in many markets, and has made it the fastest-growing print process for the graphics and package printing industries. Inks for inkjet presses fall into three broad categories: solvent-based, water-based, and UV curable. While each possess unique properties from a production perspective, they all share one thing in common: they contain volatile organic compounds, or VOCs.

Air Pollution and Its Control

Releases of VOCs are regulated by the U.S. Environmental Protection Agency (EPA), as well as state/local air pollution control authorities. Air pollution control requirements are divided into three separate, but related, requirements. The first involves permit requirements, second is the imposition of specific control requirements, and third is reporting. It is important to understand that there are thresholds associated with each of these, and the need to obtain a permit does not necessarily mean that a printer will have control requirements imposed on its facility. The air permit serves as a legal document that incorporates any applicable control requirements designed to reduce the emissions. The most important function of an air permit is that it provides a facility with the legal basis for operation. Permits should be viewed as a "contract" or agreement between the printer and the permitting authority. This contract is legally binding, and will contain terms and conditions that must be met by the printer. Failure to meet them can subject the printer to an enforcement action. Most importantly, air permits must be obtained prior to installation of equipment.

Air permit thresholds can either be based on material use, actual emissions, or potential emissions. As the name implies, actual emissions are based on the amount of inks, primers, coatings, and cleaning solvents consumed during normal production. Potential to emit (PTE) is defined as the greatest amount of emissions that could be released from a piece of equipment or facility based on its maximum design capacity or maximum production. Potential to emit determinations must assume the equipment will run 24 hours per day, 365 days per year, or 8,760 hours per year. This is a challenging

Below is a table with several state or local air permit thresholds and a comparison of the results.

State/Locality	Threshold	Permit?
Massachusetts	1 ton per year potential emissions	Yes
New Jersey	1/2 gallon per hour of inks, fountain solutions, and cleaning solvents for presses	Yes
SCAQMD (Los Angeles)	 3 pounds per day, or 66 pounds per calendar month Total quantity of UV/EB/LED (non-solvent based and nonwaterborne) inks, coatings, and adhesives, fountain solutions (excluding water), and associated VOC containing solvents (including clean-up) is six gallons per day or less, or 132 gallons per calendar month or less Total quantity of inks, coatings, and adhesives not specified above, fountain solutions (excluding water) and associated VOC containing solvents (including clean-up) used is two gallons per day, or 44 gallons per calendar month or less 	Yes
Wisconsin	 1,666 lbs. per month VOC actual per press (construction permit) 1,666 lbs. per month VOC actual per facility (operation permit) 	No

Material	VOC Content (Method 24)	Consumption (gal/h)	Consumption (gal/mo)	VOC (lbs/h)	VOC (lbs/day)	VOC (lbs/mo)	VOC (lbs/yr)
Cyan	9	0.04	32.4	0.04	0.9	26.8	321
Magenta	21	0.07	47.5	0.13	3.0	91.6	1099
Yellow	13	0.08	60.7	0.1	2.4	72.5	870
Black	14	0.05	39.2	0.07	1.7	50.4	605
Aqueous Cleaning Solution	0	1	21	0	0	0	0
Total		1.24	200.8	0.34	8.0	241.3	2,895 (1.45 tons)

calculation for printing equipment, and when faced with this calculation printers need to assume a "worst case" heaviest coverage job that is printed every available hour the equipment can run, taking into account required downtime for maintenance, setup, etc.

VOC Emission Calculations

In addition to finding the appropriate threshold to determine whether a permit is required, the printer must also determine their VOC emission levels. There are two approaches that can be used, either measuring the emissions using EPA approved methods, or performing a mass balance calculation using ink, primer, coating, and cleaning solvent use information, and VOC content for each of those materials. For actual emissions, the known amount of material used is the starting point, and for potential emissions, maximum material consumption and press speed will be required.

A critical piece of information required for the emission calculations is the VOC content of the material. The only acceptable approach is to use the results of EPA's Method 24 analysis. Method 24 can either be performed on each material, or the EPA allows suppliers to provide calculated VOC content information if all of the components used to formulate an ink or other product have been tested by Method 24, and the VOC content reflects the ratio of each ingredient.

The other important aspect associated with UV-cured inks and coatings is that they do contain VOCs. Many suppliers claim that UV inks and coatings contain zero VOC, but that is not accurate. Many of them are very low, at less than 1%, but they are not zero. In the South

Coast Air Quality Management District (SCAQMD) that covers the Los Angeles area, if a printing operation claims zero VOC content with UV inks and coatings, the agency will use a default assumption of 2% VOC content. This could essentially double the emissions, so it is best to use the more accurate amount.

Do I Need an Air Permit?

To answer this question, it is best to look at an example. Above are the results of an emission and material use determination for an inkjet production press. The press is a sheetfed press with 12x18" maximum sheet, and a maximum speed of 125 ppm in simplex mode, using water-based inkjet inks.

As can be seen by looking at the air permit thresholds and the emissions or material use amounts, an air permit would be required for this press in Massachusetts, N.J., and the SCAQMD. One important item to note is that with material use thresholds, all the input materials need to be considered, even if they do not contain VOC. These thresholds are independent of the presence of VOC.

There seems to be an assumption that digital output devices and presses are "green" and therefore do not create pollution. This is an inaccurate assumption, and as the presses and output devices get larger and faster, the amount of VOC emissions is increasing. Printing operations need to understand the air permit thresholds that are applicable to their physical location, and ensure that if the threshold is exceeded, a permit is obtained. Lastly, the printing operation needs to insist upon getting VOC content data from its supplier based on EPA's Method 24 test results. **2**



Philadelphia Eagles and Ricoh Deliver a Winning Play to Help Fans Support Team and Charity

Ricoh and the Philadelphia Eagles extended their partnership to empower fans to purchase cutouts to "cheer on" their team from the stands of Lincoln Financial Field — while watching the games safely at home. These cutouts, produced with local Ricoh partner image360 Marlton (N.J.), help fans show their Eagles pride while respecting social distancing guidelines. All net proceeds benefit the Eagles Autism Foundation.

"Eagles fans mean everything to us, and their presence at Lincoln Financial Field has always been a signature trademark of our game day experience," says Catherine Carlson, senior VP, Revenue and Strategy, Philadelphia Eagles. "While unprecedented circumstances have prevented us from hosting fans in the stadium at this time, we still wanted to showcase their relentless passion and support in a unique way. We would like to thank Ricoh and image360 Marlton for their teamwork, which has enabled our fans to remain a part of the game day experience, all while supporting the Eagles Autism Foundation."

"As everyone adapts to our low-contact world, print has a huge role to play — from social distancing guidelines to cheering on fans — even when being there in person isn't possible," says Gavin Jordan-Smith, senior VP, Commercial and Industrial Print, Ricoh Americas. "From graphics on grocery floors, to wayfinding signs on reconfigured college campuses, print has been helping our society persevere at a time when so many fundamental aspects of it are changing. These fan cutouts are another way of persevering, of showing our customers, our partners, and our people that we understand the value of community."

"Our facility is about 20 minutes from Lincoln Financial Field, so naturally, a lot of us are huge Eagles fans, which makes this work that much more exciting," says Art Macauley, president, image360 Marlton. "That excitement drives a lot of energy, and with such high demand, we aim to have files turned around to the stadium within 24 hours. Ricoh has played a huge part in making that happen in a really simple, streamlined, reliable way — and the ability to print seven cutouts' worth of images in about two minutes certainly helps."

image360 Marlton prints the cutouts in-house on its RICOH Pro TF6250 flatbed. The cutouts sell for \$100, and are available for personalization and purchase at PhiladelphiaEagles.com while supplies last.

The RICOH Pro TF6250 flatbed combines productivity and the ability to print on a nearly endless selection of media. With this device, users can take on more jobs, and complete them faster. High-opacity white, vibrant CMYK, in-line clear, and primer inks deliver impeccable image quality to produce a broad range of high-value applications. Easy operation and automated daily maintenance keep workflows moving, helping users further accelerate their return on investment. **2**

A Cut Above the Rest The changing lar and routing tech wide-format's fur

The changing landscape of cutting and routing technologies are shaping wide-format's future.



By Maura Keller

Cutting and routing equipment in the wide-format industry has gotten progressively faster and more automated. This reality, coupled with the ever-changing nature of this industry segment, can help owners and operators streamline their business systems and improve their bottom line.

Just ask Signarama franchisee, Ric Anderson, of Salt Lake City, Ut. The cutting and routing space within the wide-format industry has significantly progressed in recent years, which is impacting the way he does business.

"For our shop, we have been able to offer more dimensional signage, which was just not possible several years ago," Anderson says. "The detailing that goes into each sign has become much easier and less time-consuming with new 3D software. Textures can be easily added to a sign to give it a refined look compared to a flat sign. And we are able to create more interesting and unique signs for our customers to help their businesses stand out." Indeed, As Tim Saul, senior marketing specialist, Canon Solutions America explains, change is constantly afoot within the cutting and routing segment as today's wide-format printers have made significant progress regarding quality, versatility, automation, and speed.

"From those advancements in printing technology, there is the opportunity for finishing equipment manufacturers to increase speed to market for finished graphics," Saul says. "The bottleneck for a print service provider moved from printing to digital finishing. Many of the manufacturers of cutting equipment have met the call for speed and application versatility."

A Changing Space

Historically speaking, many of the changes in digital cutting have revolved around the versatility to cut a wide range of substrates. As the ink sets and printers allow for greater use with a wide variety of substrates, so must the cutting equipment. "The biggest changes in the world of finishing/cutting systems is the increase in versatility and efficiency in print and finishing/cutting equipment," notes Gary Buck, VP, sales and marketing for Summa America. "Nowadays, it is important to meet about every cutting need you can imagine and develop versatile cutting machines, able to process a wide variety of materials, and thus address a wider range of industries."

"Many of the changes that have taken place over the course of the past few years are related to knife and router speeds, which have seen a significant increase," Saul says. As the variety of substrates has expanded, the tooling manufacturers have kept up with the demand for accurate, smooth cuts with the added benefit of increased cutter speed.

"Certain substrates can only be cut to an optimum level of speed. Tooling makes all the difference in how the cut is finished and presents as a final graphic to an end-user," Saul says. Indeed, the ability to effectively manage the digital print-and-cut workflow has been an important issue that has driven this segment of the industry.

But speed and versatility aren't the only factors driving the cutting and routing space of tomorrow. Lenny Marano, VP, product management and marketing for automation systems at Gerber Technology, points out that as the industry begins to step away from traditional signage, he's starting to see more of a push for connectivity and automation that will allow providers to quickly deliver customized products.

"Providers need to be able to offer both flexible and rigid materials, making it important to have access to the latest cutting and routing technology," Marano says. "In addition, with digital printers being able to produce vivid graphics for large display applications, up to 3.2m in width, the need for wide-format finishing is becoming mandatory."

Wide-format providers also need cutting and routing solutions that are compatible with the rest of the shop in order to efficiently offer a variety of services. "With versatile solutions, providers are able to quickly and easily change from one technology to another, providing a tremendous advantage," Marano says.

"Industry 4.0 is hot on the minds of OEMs and PSPs," says Heather Roden, strategic account manager, Graphics/Packaging at Zund. "While Zünd Cut Center (ZCC) has long leveraged material databases for eliminating operator trial and error, we find more and more often custom data exchange taking place between PSP homegrown MIS workflow systems and ZCC."

Roden goes on to note that one of the single biggest trends she sees for the space is around, "how the data exchange from all of the equipment on the shop floor will allow PSPs to operate with much more sophisticated cost-estimating models, which in turn will lead to much greater profitability."

The lower costs and faster production times associated with these cutting and routing advancements have given business owners like Anderson the ability to earn more revenue and profit opportunities with their signs.

"We have seen new suppliers of equipment enter the market and they have lowered the cost of owning equipment, making it possible for smaller shops to get into the industry," Anderson says. "The addition of 3D software has been a game changer for my team, opening the opportunity to automate many processes for small and mid-sized shops."

Trends to Watch

According to Chris Logan, director of product development at Esko, when considering the latest technology advancements in the sector, one of the key factors that will continue to be top of mind is versatility.

As Logan explains, historically, converters would have required an array of equipment across their shop floor to handle a range of different materials and applications — be it textile, paper-based, rigid, etc.

"But because of the advances driven by companies, many of these applications can now be handled with a single device," Logan says. "And due to end-market trends, there has also been a significant shift of focus toward quick changeovers between different materials and throughput, which has succeeded in ensuring finishing did not become the bottleneck."

Saul points to workflow as the key to success for automating the print and cut production. As such, there have been increases in motor, routing, and cutting speeds, but there are also advancements in X/Y motion speed of the gantries.

"To meet the quest for quicker cutting production, the size of the working table has an impact on the productivity of the cutting system as well," Saul says. "Cutters that have on-loading and off-loading tables increase the productivity of the cutter, and minimize the downtime of conveying and reloading. There are systems that have increased the working table size, which can cut up to three 4x8-ft. boards in one convey."

And as suppliers continue to develop new substrates to meet the demands of brands and customers, integrated solutions have to ensure that the tooling technology keeps pace. As Logan explains, this can mean anything from the development of a totally new tool, to a very focused enhancement in knife blades or router bits.

"The challenge is to meet the multiple objectives of ensuring the highest quality of cut, for the lifetime of consumables, within reasonable budget constraints," Logan says. But that is easier said than done because the challenge of doing so is exacerbated by an influx of low-quality material on the market.

"While in some cases it may still be possible to print on lower quality boards, it is only when finishing a particular substrate that we really find out what it's made of and suffer the consequences in terms of the final output," Logan says.

The need will also spread to other areas of finishing. Roden notes that, "as cutting/routing processes become more automated and efficient, kitting is the area that turns into a bottleneck." She believes solutions that integrate a range of processes will help ease some of the challenges of the future.

The continued importance and awareness of environmental issues has also led to a significant increase in demand for more environmentally-friendly materials, particularly in the sign and display segment of the market. According to Logan, customers are looking to replace oil or plastic-based materials with more sustainable, eco-friendly offerings.

Digital transformation is also hugely important, and as a global provider of integrated software solutions, the team at Esko has been heartened that automation has been another driving factor in this market.

"We have seen strong adoption from some of the industry's biggest names, and it's now making its way across the market in general, as it delivers maximized productivity, greater accuracy, and consistency of results, while also delivering the flexibility of fast job changeovers as run lengths continue to get shorter," Logan says.

What the Future Holds

As technology in the cutting and routing space continues to advance, experts agree that manufacturers will continue to embrace enhancements to bring forth more productive units, while also researching new methods and tools for finishing.

"Many of the latest innovations are going to allow manufacturers to produce for longer and longer run sizes," Marano says. "The new technologies will help providers deliver the quality, speed, and versatility required to keep up the demands of longer-run, digitally printed applications."

And as cutting and routing technologies continue to get more advanced in terms of digital processing and data capabilities, end users will be able to cut more precisely and leverage higher power tools.

"We are starting to notice the incorporation of linear motors being used in some units," Saul says. Linear motors reduce friction, wear, and tear on parts, while increasing the speed of the traversing motion on the cutters.

According to Dylan Hoffman, engineer at Colex Finishing, the equipment on the market today is exceeding 4,000 and even 5,000 inches per minute feed rates. This was something unheard of less than a decade ago.

"The manufacturers of the equipment are also working toward streamlining setup time by incorporating the use of a shared material library that can be accessed by a printed QR code, which will carry material, tooling, and the cut file data," Hoffman says. "The main competition on the flatbed cutting market all offer QR code functionality. What is currently holding back this technology from becoming mainstream are the RIP software companies."

As Hoffman explains, the majority of RIPs have yet to adopt this workflow, with Caldera being one of the first to take a chance. One by one, the other RIP software companies will follow as the demand for streamlined productivity across equipment increases, he says.

One additional challenge faced by the wide-format industry is to be constantly aware of the development of new materials — which ultimately affects the routing and cutting processes. "There is also a growing argument for not only advancing deeper automation of the tables, but integrating this automation more closely across the entire shop floor," Logan says.

And as equipment continues to improve, Anderson and his team at Signarama in Salt Lake City are constantly watching for new software options.

"In routing, we are able to produce beautiful threedimensional signage. To do so, we have spent a great amount of time attending training courses and learning the functionality of various software programs," Anderson says. "This is allowing us to stay ahead of our competitors with creativity and production. I think the future will be wide open for those who stay at the front of technology. 3D printing, lasers, and new technology are the key for our future success." **2**

This article originally appeared in the March/April 2020 edition of Wide-format Impressions.



LOW STRESS. CALM. SMALLER LOW-PULSATION PUMP. BIGGER LOW-PULSATION FAMILY

Low-stress, Calm Flow Just Got Smaller with New FP 150 Diaphragm Pump.

Introducing FP 150, the smallest addition to a growing family of KNF low-pulsation liquid diaphragm pumps. The full line now features a linearly-controllable flow rate range spanning from 0.2 - 12/4 L/min.

KNF low-pulsation pumps combine the advantages of diaphragm liquid-pump technology with pulsation levels comparable to gear pumps. They are self-priming, have run-dry ability, and provide long, maintenance-free lifetimes under continuous-operation conditions.

These pumps are particularly well-suited for bulk ink recirculation, ink transfer to the upper reservoirs or directly to the printheads, and recirculation of ink in flow-through printhead systems.

Learn more at knf.com/en/us/smooth-flow



PRODUCT DEMO VIDEOS

HP Highlights the Benefits of its PrintOS Platform

Launched at drupa 2016, more than 12,000 HP customers are now connected on HP PrintOS, using a range of applications that leverage big data on the cloud in real time for all types of production challenges. HP's Tom Wittenberg, industry relations and events manager, North America, from the Alpharetta, Ga., location will talk about the

platform, and how its Web and mobile apps help PSPs get more out of their printers and presses, along with simplifying and automating production.



Some of the HP PrintOS applications driving success include:

- Marketplace loaded with new applications and partner solutions, including information on market trends and business opportunities, as well as free open artwork files.
- In collaboration with Microsoft Xiaoice, unlimited unique "mosaic-ready" seed patterns created by AI technology are available in the Marketplace, enabling designers to create hyper-customized projects faster. The first 4,000 mosaic patterns are available free of charge until the end of 2020.
- HP Site Flow offers three user levels Lite, Pro, and Enterprise — supporting PSPs producing as few as 50 jobs per day, to more than 10,000.
- Predictive Press Care algorithms address potential press issues before they impact production.

Fujifilm Highlights a Range of Solutions for Graphics Providers

During its PRINTING United Digital Experience video presentation, Fujifilm executives highlight a range of solutions, including its ColorPath

SYNC Brand Color Optimizer, which fine tunes the ability to print spot colors. The technology can be used to optimize any color library — including Pantone, HKS, and Toyo. The XMF Colorpath Brand Color



Color Management in the Cloud™

Optimizer measures and optimizes every color within the library. Because spot colors are managed separately from regular CMYK colors, maintaining ISO printing of CMYK and Pantone spot colors in the same job is easier.

In addition, the company touches on several of its new press



platforms, including the Acuity Ultra, a superwide UV printer, available in 126" (3.2 meter) and 197" (5 meter) versions, and equipped with advanced features for flexible and productive superwide printing. And the OnsetX HS range, featuring two new machines, the Onset X2 HS and the Onset X3 HS, printing up to



15,597 sq.ft./hr. utilizing a new single cycle mode. They are compatible with Inca's range of application-specific robotic handling systems, and incorporate "30 second" job setup, and "single cycle" printing modes.

Epson Demos Productivity Boosts with the SureColor S Series

David Lopez, product manager, Profesional Imaging, Epson, gives viewers a closer look at the new SureColor S-Series solvent printers. The 64" SureColor S60600L features a four-color bulk ink pack system, and the 64" SureColor S80600L features a 10-color bulk ink pack system,



providing double the ink capacity of previous generations. The SureColor S80600L is capable of hitting 98.2% Pantone coverage. Both models offer more than 30% better ink efficiency than comparable latex solutions.

Agfa Shows Off Oberon RTR3300 and Jeti Tauro H3300 S Presses

The Agfa inkjet portfolio can help PSPs expand and diversify their business, particularly with the two newest presses to the company's lineup: the Oberon RTR3300, a 3.3m high

speed LED-UV roll-to-roll printer; and the new Jeti Tauro H3300 S hybrid device.

The Agfa Oberon RTR3300 comes in a four-color plus white, and a six-color version, depending on user needs and preferences. In



'express mode,' it hits 150 sq.m./hr. In 'production mode,' the Oberon reaches a consistent 85 sq.m./hr. The dual-roll option is capable of



handling two rolls each up to 1.6 meters wide, doubling the total output.

The Jeti Tauro H3300 LED S is an entry-level model. This new hybrid six-color printer, with optional white and primer, boasts a top speed of 302 sq.m./hr., which can be upgraded to the higher speeds of its bigger brother. It

also shares the latter's short start-up times and quick and easy maintenance, while featuring the same automation options. It will be available in six possible configurations.

14 | PRINTING United Digital Experience

Exploring the Breadth of Canon Solutions

Canon Solutions America gives attendees a tour of the U.S. Customer Experience Center. The tour — led by Randy Parr, marketing manager, Canon Solutions America; John Kaufman, senior marketing specialist; Lann Tarrant, senior account executive, textiles; and Tim Saul, senior marketing specialist — gives viewers a sense of the breadth and depth of Canon's large-format graphics solutions. A few of the products include:

- The new Arizona 2300 with Flow table technology eliminates the need for masking on most materials.
- The Colorado 64" roll-to-roll graphics printer with industrial design for higher print volumes.
- The DGI series of Dye Sublimation printers for soft signage and apparel applications.
- Various finishing solutions from digital flatbed cutters, to X/Y cutters, as well as Canon's new in-line Colorado Wall Covering print and finish factory.



Roland DGA Discusses Finding the Right Flatbed

Scott Burgess, application engineer; and Jay Roberts, UV product manager, Roland DGA, walk viewers through the three things to consider when looking for a flatbed printer. Roberts first gives viewers

a few tips on choosing the right flatbed printer.

1. Speed vs. Quality. Sometimes speed means sacrificing quality, while high-quality flatbed presses can often take a long time per print. Look for a printer that falls in the middle of the two extremes.



2. Available Inks. The ink choice for flatbeds, he notes, is UV. Some flatbed printers offer just CMYK, while others have expanded ink sets to get smoother gradients.

3. Build Quality. The more stable it is, the more effective it will be in how well it keeps the substrate in line, increasing the quality and repeatability over time.

Burgess then touches on the company's IU-1000F high-volume UV flatbed printer. Designed for fast, efficient printing on a wide range of substrates — including 4x8' rigid boards weighing up to 99 pounds — the IU-1000F has 12 print heads in a staggered three-row arrangement and a four-inch carriage clearance. It prints edge-toedge on thin or thick boards, and offers multiple speed and performance options, including a maximum speed of 1,248.6 sq.ft./hr. in

PRODUCTS

Products included in this section were updated as of October 13, 2020. For additional products within this category and others, please visit digital.printingunited.com/new-products.

Colex Sharpcut Pro SX1732 Flatbed Cutter

The Sharpcut Pro offers increased speed and acceleration, and a robust one-piece steel welded frame that delivers clean, smooth edge quality



on rigid boards and roll media. The Pro includes a Triple Interchangeable Tool Head that has the ability to add tools and router options to customize for specific workflow. The Pro includes the latest Vision Registration Software and Energy Efficient Vacuum system.

Monti Antonio S.p.A. 91-3600

Calender for transfer printing, reactivation, and "crush" heatsetting. Cylinder width, extra large sizes: 3600 mm (141.73")

3600 mm (141.73") 5400 mm (212.59")

Edward Segal 3PGW Grommet Machine

The Edward Segal Inc. 3PGW is well suited to the sign and awning industry, and fills the void between the more expensive high volume machines and the manual load options. A 3PGW does everything the larger machines do, including punching the hole, and feeding both the grommet and washer.



ESKO Kongsberg X Edge

The Kongsberg X Edge is the perfect start to your digital finishing

journey. The Kongsberg X Edge can handle the full spectrum of display, signage, and packaging materials from kiss cutting vinyl, to heavy duty milling, and more. As your company grows, the Kongsberg X Edge evolves with you, and can be upgraded in both speed and acceleration.





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