

SEPTEMBER 2026

GRAPHICS | PRO

APPAREL DECORATION • AWARDS & CUSTOMIZATION • SIGNAGE • WIDE-FORMAT PRINTING • WRAPS

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Rolling into the future

An inside look at the wide-format
roll-to-roll printer market



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to the hype?

Wrapping for
NASCAR

Honoring first
responders

Understanding
RIP software

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(Image courtesy of MUTOH)

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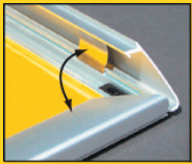
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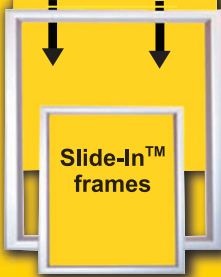
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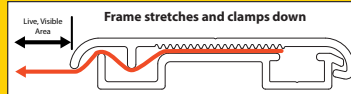
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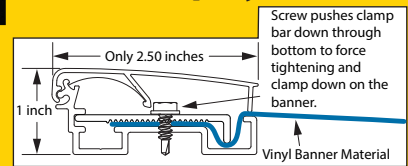


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THE ONE-STOP SHOP ADVANTAGE:

INCREASE REVENUE BY SELLING MORE TO EVERY CUSTOMER

ON DEMAND

Every customer who walks through your door is an opportunity to sell more than just one product. The most successful custom apparel and print businesses aren't winning because they have more customers, they're winning because they provide more solutions.

In this webinar, we will show you how to transform your business into a true one-stop shop by expanding your product offerings strategically, increasing the value of every order, and creating new revenue streams without adding unnecessary complexity.

You'll learn:

- How to identify the products your customers are already buying elsewhere
- Strategies to increase average order value with complementary products
- Which product categories offer the greatest opportunity for growth and profit
- When it makes sense to outsource versus produce in-house
- How to expand your business without becoming overwhelmed
- Common mistakes to avoid when adding new products and services
- What equipment offers the best investment opportunity for expansion

Whether you currently sell T-shirts, embroidery, signage, promotional products, or are just getting started, you'll leave with practical strategies to help you grow a more profitable customization business.

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SPEAKER



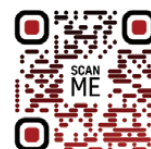
Marc Vila
Director of Marketing
ColDesi

Marc Vila has spent more than a 15 years educating entrepreneurs and business owners on the technologies, strategies, and best practices behind successful customization businesses. Through hundreds of webinars, videos, articles, and podcasts, he has helped thousands of businesses understand everything from startup fundamentals to scaling production and increasing profitability.

Known for breaking down complex topics into practical, real-world advice, Marc focuses on helping business owners make smarter decisions, avoid costly mistakes, and build businesses that are positioned for long-term growth.

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James Anderson
is the editor-in-chief of GRAPHICS PRO magazine. He can be reached at janderson@cahabamedia.com.

What's your favorite industry event?

When we wrap up this month's issue, my focus will shift toward travel. The day after these pages are sent to the printer, I'll make my way a whole 12 miles from my home office to DAX Twin Cities, the last Decorated Apparel Expo of the year. It's a significant trip for me not only because it's my first DAX show, but it's also my first industry trade show I've been able to attend personally since Impressions Expo Long Beach back in January. Eight months is a long time without a trade show in my line of work.

Since our own show, GRAPHICS PRO EXPO, was discontinued in April, we've been looking at new ways in which we can cover other industry events to still bring our readers an elevated level of coverage of new and updated products, techniques, and strategies that will help keep you at the top of your game. That said, you'll find an article titled, "10 things to see at PRINTING United Expo" on page 11 of this issue.

On page 8, you'll see upcoming events listed in our Industry Updates section. Some of those we'll attend in person, and others we'll preview in print, online, or both. If you have an event coming up that you think GRAPHICS PRO readers need to know about, please send it our way to gpeditorial@cahabamedia.com, and we'll do our best to spread the word.

As always, thanks for reading. See you at the trade shows!

James Anderson
Editor-in-Chief

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Talk to us

We're always looking for ways we can serve you better. Send your comments and feedback to Editor-in-Chief James Anderson at janderson@cahabamedia.com. We'd love to hear from you!

FREE | SEPTEMBER 17
12 P.M. CENTRAL

WINNING WITH SPORTS LICENSING: HOW DECORATORS CAN TAP INTO A GROWING MARKET

Sports licensing can open the door to new revenue streams, larger customers, and repeat orders, but it also comes with rules, requirements, and opportunities that many decorators don't fully understand.

In this webinar, we'll explore how established apparel decorators can expand into the sports licensing market, from serving local teams and organizations to producing officially licensed merchandise for collegiate and professional brands.

Attendees will learn:

- The fundamentals of sports licensing and how the licensing process works
- How decorators can identify profitable opportunities in the sports market

- Common compliance, approval, and trademark considerations
- Best practices for working with licensed properties and brands
- Strategies for turning sports licensing into a sustainable growth opportunity

Join us for a discussion designed to help decorators navigate the sports licensing landscape with confidence and position their businesses for long-term success.

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SPEAKER



Chris Hooks
Vice President of Licensing
Stahls



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NEW HIRES, PROMOTIONS & RECOGNITIONS



Sean Eckhardt
S&S

S&S appointed veteran commercial leader **Sean Eckhardt** as senior vice president of U.S. sales. Eckhardt joins S&S with nearly 30 years of commercial leadership experience and a track record of leading high-performing sales organizations, driving transformational growth, and developing winning teams. He succeeds Jim Strugell, who recently announced his retirement after helping lead S&S through its

transformation following the acquisition of alphabroder. In this role, he will lead the company's national sales organization, advancing its commercial strategy, strengthening partnerships, investing in talent, and delivering even greater value to customers.



John McCahan, John Peck & Monica Sarmiento
Fellers

Fellers made three key additions to its executive and leadership team: **John McCahan** as chief customer experience officer, **John Peck** as vice president of sales, and **Monica Sarmiento** as director of human resources.

McCahan joins Fellers as chief customer experience officer, bringing a record of leading customer-centric transformation across the automotive, banking, logistics, manufacturing, and retail industries. In his role at Fellers, he will lead the continued evolution of the company's service strategy, leveraging data-driven insights and technology to enhance every customer interaction.

Peck is vice president of sales. He brings more than 28 years of leadership experience in sales, marketing, and operations across manufacturing, industrial distribution, and supply chain. At Fellers, Peck will lead the sales organization across the enterprise, including inside sales, outside sales, and the product team, while partnering closely with operations, supply chain, and logistics to drive customer satisfaction and top-line growth.

Sarmiento joins Fellers as director of human resources, bringing more than a decade of progressive HR leadership experience across manufacturing, distribution, and consumer products organizations. At Fellers, she will lead the company's people strategy, focusing on talent acquisition, leadership development, employee engagement, and building a high-performing culture to support the company's continued growth.



Have news to share? Email gpeditorial@cahabamedia.com.

UPCOMING EVENTS

**UV Energize****Sept. 8-10**

Nashville, TN

pds.ticketbud.com**Shirt Lab Vegas****Sept. 22**

Las Vegas, NV

shirtlabtribe.com**PRINTING United****Sept. 23-25**

Las Vegas, NV

printingunited.com**Impressions Expo****Oct. 21-23**

Dallas, TX

impressionsexpo.com

UPDATES

STAHL'S welcomed apparel decorators, print professionals, and business owners from across the region to its SF-1 Innovation Center for a sold-out Pro Day, giving attendees an close-up look at the latest innovations in heat printing, custom transfers, and print-on-demand fulfillment.

As the band Rush embarks on its historic Fifty Something Anniversary Tour, **Royal Apparel** said it is proud to play a role in helping bring merchandise to one of the most influential and enduring bands in music history through the launch of **Basic Supply Co.**

Image360 Rapid City has earned its Experiential Graphic Design (XGD) Certification.



Crystal D announced its second disbursement of charitable donations to nonprofits supported by the company's Legacy Gallery award sales. Donations helped support the Dave Thomas Foundation for Adoption, the International Rett Syndrome Foundation, 4 Paws for Ability, and Water for South Sudan.

Pukka supported Children's Mentoring Connection of Hancock County's 43rd annual golf fundraiser by donating headwear for children participating in the event. The hats helped commemorate the day while enhancing the experience for attendees and supporting the fundraiser's efforts to raise awareness and funding for local mentoring programs.

Allegra Marketing Print Mail Billings has provided more than \$11,000 in printing and signage grants to local nonprofits through its partnership with Yellowstone Valley Gives, a community fundraising initiative organized by the Billings Community Foundation.

NEW HIRES, PROMOTIONS & RECOGNITIONS



📍 Jessica De Mello SRG

SRG promoted **Jessica De Mello** to director of vendor relations. A respected industry professional with more than 30 years of experience in the promotional products industry, De Mello will assume responsibility for SRG's program business while also serving as a key liaison between the company, its preferred vendor partners, and major distributor groups across North America. In her new role, De Mello will oversee supplier and vendor partnerships, preferred vendor programs, and strategic vendor growth initiatives designed to support SRG's continued expansion within the promotional products marketplace. De Mello has been with SRG for over 30 years and has most recently served as national business development representative.

AWARDS & RECOGNITIONS



Durst Group, including Durst North America and Vanguard Digital Printing Systems, has been recognized as the most awarded organization for the fourth consecutive year, securing 13 PRINTING United Alliance Pinnacle Awards.

The **International Sign Association** will be recognized with a Power of Associations Award from the American Society of Association Executives this month.

Atlantis Headwear earned a place among Italy's 500 Leaders of Growth 2026, a ranking by Il Sole 24 Ore and Statista recognizing the country's fastest-growing companies.

David Rindfleisch of **Minuteman Press** in Gilbert, Arizona, was inducted into the President's Club after surpassing \$1 million in gross sales for the year ending 2025.

iPROMOTEu has been named to the PPAI 100 list for 2026, climbing to No. 4.

Epson garnered three PRINTING United Alliance 2026 Pinnacle Product Awards for its industrial professional printing solutions.

AWARDS & RECOGNITIONS (CONTINUED)

The **Minuteman Press** franchise in McAllen, Texas, celebrated its 9th anniversary with a special ribbon-cutting ceremony. The event, sponsored by the McAllen Chamber of Commerce and the Rio Grande Valley Hispanic Chamber of Commerce, recognized the milestone, celebrated the business's continued growth, and showed support for owner **Gina Cruz** and her team.

Three of **Roland DG's** products have received 2026 Pinnacle Awards from the PRINTING United Alliance.

AlphaGraphics is one of only 50 franchises to be named to Franchise Business Review's (FBR) 2026 Most Profitable Franchises list for the third consecutive year. In addition, AlphaGraphics is also one of only 100 franchise brands recognized by FBR as a 2026 Top Franchise for Women.

Agfa received two 2026 Pinnacle Product Awards from PRINTING United Alliance.

PARTNERSHIPS



Koozie Group partnered with **Artifi**, the SaaS platform, to make AI-generated, customization-ready product data available to distributors through Artifi's AI Automated Product Setup.

Glantz entered into a distribution deal with **HEXIS** to add paint protection film and color change film solutions to its growing portfolio of wrap and surface protection products.

Gemline announced a new partnership with **LifeStraw**, a brand known for its water filtration products and mission to expand access to safe drinking water worldwide.

S&S, formerly S&S Activewear, is now the exclusive U.S. distributor for **adidas** team apparel, marking a significant milestone in its longstanding partnership with the brand.

STAHLs' partnered with the **National Hockey League** to provide real-time jersey customization during the 2026 Upper Deck NHL Draft at Buffalo's KeyBank Center.

Miir, a lifestyle brand known for its drinkware, announced a new wholesale partnership with **SanMar**, a wholesale imprintable apparel supplier.

SanMar will partner with **Flexfit** to add to the supplier's portfolio of retail brands as a standalone offering for the first time.



Principal Industries, a provider of electrical components and services to the commercial sign industry, announced the acquisition of **GENLED Brands**, a New Jersey-based LED lighting solutions provider.

STAHLs' has announced that **Siser**, a global provider of heat transfer vinyl and material innovation, is now part of the STAHLs' family of companies.

GRAPHICS|PRO WEBINARS



ColDesi	Sept. 10
STAHLs'	Sept. 17
STAHLs'	Oct. 22
Siser	Nov. 5
Xante	Nov. 19
Radian Laser	Dec. 3

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10 things **you can't miss** at PRINTING United Expo

Image courtesy of PRINTING United Expo

PRINTING United Expo

runs Sept. 23-25 at the Las Vegas Convention Center, and it's shaping up to be a big one with more than 140 countries represented on the 1 million-plus square foot show floor. More than 800 exhibitors are registered, many making global product debuts at the show. As the GRAPHICS PRO team readies for a few days in Vegas, here's our pick of the top 10 things to see at the show.

1 New product launches and live equipment demos: Many exhibitors will be unveiling new products, some with live demonstrations. Grab an expo map and check in with your favorite brands on the show floor.

2 The Apparel Zone: The live training hub at PRINTING United is billed as hands-on training and experiential theater, focusing on educational presentations, machine demonstrations, and live technical training.

3 Networking: There are always opportunities for networking (it is Las Vegas after all). BELLA+CANVAS is sponsoring a happy hour in the Apparel Zone both days of the show, including the Print's Not Dead Party hosted by Made Labs.

4 Women in Print: The Women in Print Alliance Annual Networking Luncheon returns on Thursday, Sept. 24, from noon – 2 p.m. PT, featuring keynote speaker Corrie Lo on "The Five Overwhelm Culprits." During her presentation, Lo will share actionable strategies for overcoming the hidden drivers of overwhelm and pragmatic

tactics professionals can use to reclaim focus, energy, and effectiveness in both their careers and personal lives.

5 Student Day: In partnership with The Foundation for Graphic Communication Education (The FGCE), PRINTING United Expo continues to expand its Student Day experience, taking place Thursday at the show. Designed to introduce students to the limitless career opportunities across the printing industry, this year's program will feature enhanced career development programming, expanded mentorship opportunities, and greater one-on-one engagement with industry professionals throughout the day's activities.

6 Education sessions cover the industry's most critical and emerging topics, including automation, AI, workflow efficiency, sustainability, and business growth opportunities. Education sessions offer focused learning opportunities to introduce new opportunities and sharpen existing skills.

7 Print Mastermind: Colin Sinclair McDermott and the Print Mastermind community will bring another interactive experience to PRINTING United. Hosted within the Expo's interactive Spill the Ink District, a destination designed to spark candid conversations, fresh ideas, and meaningful industry connections, Print Mastermind x Spill the Ink will bring together printers from around the world for a series of informal peer-to-peer discussions focused on business growth, leadership, sales, marketing, AI, and the real-world challenges facing print business owners today.

8 She*t for Brains: The industry-focused mental health initiative, She*t for Brains, is dedicated to reducing stigma and providing practical support to print professionals. The group will host an on-site space in the Spill the Ink District where attendees can learn about resources, speak with team members, access event materials, and find a welcoming place to connect. The group will also host "Breaking the Silence: How She*t for Brains Tackles the Mental Health Crisis." This dedicated, in-person session will explore the unique stressors facing print professionals, practical intervention strategies, and how employers and peers can create healthier, more supportive workplaces.

9 PRINTING AI Pavilion: The AI Pavilion is a destination on the show floor built exclusively around AI adoption in the print and packaging industries. A product fair rather than a vendor showcase, it's billed as a structured, practitioner-first experience designed to "move print operators from curiosity to conviction and from conviction to action."

10 Spill the Ink District: Join candid conversations with industry leaders in the Spill the Ink District, where industry leaders tackle real challenges and opportunities. Spill the Ink offers fresh perspectives in a relaxed, engaging environment designed for connection and insight.

More information on these events and many, many more can be found at printingunited.com. **GP**



Rolling into the future

An inside look at the wide-format roll-to-roll printer market

By Stefanie Galeano-Zalutko

Thanks to wide-format printing, creativity is no longer limited to standard sizes, materials, and placement. Instead, shops can put their talent on display by turning large-scale visual content into high-impact brand assets — effectively transforming how and where consumers receive target messaging.

“As long as people occupy physical spaces, there will always be a demand for visual communication,” said Sean Profera, product experience sales manager at Roland DGA.

Despite a rapidly changing technological landscape, print service providers still trust an evergreen roll-to-roll setup to produce reliable results — even as business opportunities

continue to evolve well beyond traditional commodity banners, signs, and graphics.

As the Swiss army knife of wide-format printing, it can economically

produce one unique graphic, hundreds of localized versions, or a long production run without the conventional setup requirements associated with analog printing.

The printing method excels alongside flexible materials like vinyl, paper, fabric, and film, which account for nearly 58% market share in the large-format printer market, according to Fortune Business Insights.

“Roll-to-roll thrives when printing on monomeric and polymeric vinyls, whether that is a cast or calendared product for things like wallpaper and vehicle graphics, or something with a scrim for banners,” said Tony Simmering, product manager at MUTOH.

While vinyl materials remain a top choice for outdoor banners and durable promotional signage, textile-based materials continue to gain ground in exhibition graphics and interior decor. Less common rigid substrates, such as foam boards, acrylic panels, and corrugated materials, are gaining traction in retail display and architectural applications.

Decades later, industry professionals still tout the versatility and operational efficiency of wide-format roll-to-roll — praising its ability to deliver high-quality, consistent results time and again.

“This type of printing has potential customers within nearly every industry — it’s not dependent on one vertical,” he said.

The graphics and promotional products industry continues to face a variety of headwinds, from battling



tariffs and balancing supply chain disruptions to navigating advanced automation and AI integration. Despite turbulence and growing pains, the wide-format roll-to-roll market is stable, trends are hopeful, and the future looks bright.

State of the market

According to Fortune Business Insights, the global large-format printer market is projected to grow from USD \$11.11 billion in 2026 to USD \$16.52 billion by 2034 — exhibiting a CAGR of 5.08% during the forecast period.

Experts see various trends taking shape in a steady, albeit consolidating market. Manufacturers, suppliers, and print specialists are weathering the same economic storms, trying to keep their heads above water and reinventing themselves where applicable.

“Supply chains have improved considerably from the most disruptive periods over the past several years, but they have not returned to being completely predictable. Availability of printheads, electronic components, motors, specialized media, chemicals, inks, and replacement parts can still be affected by transportation issues, geopolitical events, trade policy, manufacturing capacity, and regional demand,” said Mark Crawford, product and business development manager at Durst.

In true Darwinian fashion, natural selection will prevail. Smart business leaders are expanding where necessary to insulate themselves from any major impacts. Many businesses are downsizing, positioning for acquisition or strategically diversifying their customer bases.

For example, Crawford points to traditional sign and graphics companies expanding into decor, packaging, industrial applications, textiles and specialty/customized products. At the same time, commercial printers, packaging converters, and other print providers are adding wide-format capabilities.

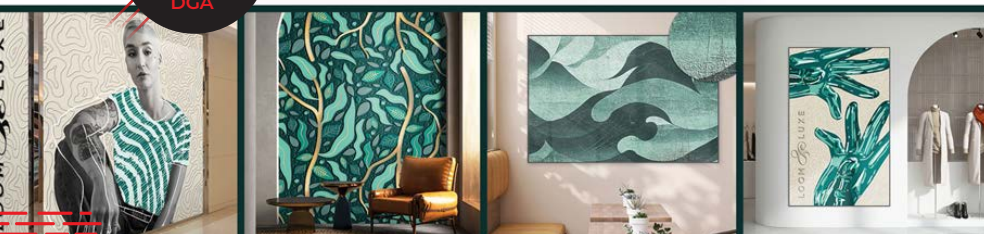
“That convergence is expanding the potential customer base for



Images courtesy of Roland DGA



Images courtesy of MUTOH



wide-format equipment,” he said.

Right now, wide-format roll-to-roll professionals have a unique opportunity to use current economic conditions as inspiration to adapt and expand into stable or emerging markets. Crawford reminded print specialists that the most promising niches are generally those in which the print provider can combine printing alongside a menu of other services, from design and installation to finishing, fulfillment, or ongoing campaign management.

“The more complete the service, the less the business must compete solely on price per square foot,” he said.

Trends & opportunities

As print service providers look to build their businesses, industry professionals

lend some keen insight into modern market trends that are making a splash — starting with logistics.

“While productivity remains critically important, customers are placing greater value on equipment utilization, automation, application flexibility, color accuracy, ease of operation, and total cost of ownership,” Crawford said.

Sustainability is introducing and scaling a pull-through trend of its own, enabling print service providers to better position themselves with end users — many of which prioritize sustainability as a key requirement of doing business, said Thomas Giglio, latex segment manager of North America at HP Inc.

Data shows the expansion of sustainable printing materials and recyclable substrates is influencing

product development strategies across the global market as well. For example, Giglio sees print specialists shifting to water-based ink solutions, which eliminate outgassing and present as odorless.

“These inks are higher in color gamut, instant-dry, and have simpler disposability requirements,” he said.

Likewise, as the global wide-format roll-to-roll market continues to progress, there is an increased expectation to integrate immediate, personalized, and locally relevant communication.

“A younger generation of print professionals is spending enormous amounts of time in digital environments, which is fueling experimental marketing, tradeshow graphics, and physical brand experiences,” Profera said.

Print specialists are answering the call by shifting from mass-produced, generic graphics to highly tailored, automated, and sustainable applications. According to Simmering, there is “outstanding demand” for familiar promotional and decor items, with dye sublimation as a viable technology to produce these custom items at scale.

Meanwhile, Profera points to packaging and vehicle wraps, as well as industrial, architectural, and direct-to-object decoration applications as higher-value, specialized solutions in a modern market.

The vehicle graphics segment, in particular, is ripe with opportunity, as printable paint protection films are starting to exit the R&D stage, move to production, and provide shops with a new and/or more diversified revenue stream. The business experts agree that small businesses across countless sectors recognize the value of permanent advertising assets like vehicle wraps.

“If you have the skill and desire to learn, vehicle graphics, specifically in the commercial space, have the potential for great profitability. The margins are typically smaller but offer a larger quantity and more consistent work,” Simmering said.

Data also supports increased demand in personalized, experiential, and versioned high-quality graphics,

wallcoverings, and films; commercial, textile, and soft signage; interior decor, murals, and wayfinding; control panel overlays, POPs, and technical drawings; safety, warehouse, and industrial graphics/identification; and flexible advertising applications across various industries.

“One of the strongest, higher-margin and more profitable segments of wide-format roll-to-roll printing is in the interior decor and experiential spaces,” Profera said. “Hotels, offices, healthcare facilities, schools, and multifamily housing are using more custom wallcoverings, window graphics, architectural films, wayfinding systems, and branded environments.”

“This is being driven by the ‘experience economy,’ corporate workplace redesign, and a desire for more personalized physical environments,” he continued.

According to Crawford, soft signage and fabric-based display graphics present a sweet-spot opportunity



as well. Since fabric graphics are lightweight, easy to transport, and visually appealing, they are increasingly common in retail, trade show, corporate, and hospitality environments.

“Other notable opportunities include construction barricades, backlit

displays, specialty event graphics, and short-run customized products,” Crawford said.

Automation & AI-driven capabilities

Modern customers not only expect graphics to be updated more frequently,

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Roland
DGA



but also targeted to specific locations, audiences, seasons, or events. Consequently, Crawford said print service providers are under mounting pressure to deliver shorter runs, faster turnaround times, greater customization, and a wider variety of applications — often without adding labor.

“Providing this service level requires significant investments in people, technology, and efficiency,” Profera added.

Digital wide-format production is a well-suited solution since it eliminates plates, allows rapid changeovers, and makes shorter runs economically viable.

Roll-to-roll systems, in particular, are increasingly automated and production-oriented. Crawford points to significant improvements in key areas like media handling, tension control, take-up systems, vacuum management, curing, printhead technology, and workflow software, which allow equipment to run faster and more consistently with less operator intervention.

“We expect roll-to-roll systems to become even more versatile. Print providers want the ability to handle a broader range of media without extensive mechanical adjustments or complicated setup procedures,” Crawford said.

Dual-roll printing is another important development, allowing two narrower rolls to be produced simultaneously, which significantly improves equipment utilization when a shop has multiple jobs that do not require the full print width.

Hybrid platforms, which provide print operators with the ability to move efficiently among rigid boards, sheets, and flexible roll media, are another example of automation paying dividends.

“But the printer itself is only one part of a successful roll-to-roll operation,” Crawford reminded. “A company can own a very productive printer and still struggle if files, media, cutting, lamination, installation, or job scheduling become bottlenecks.”

He points to an ongoing operator shortage as an example. Labor issues are pushing manufacturers to simplify all areas of workflow and production to mitigate any associated risks, from job setup, media loading, and color management to maintenance and production monitoring.

“Print providers want equipment that allows a less experienced operator, for example, to produce consistent work with fewer manual adjustments,” he said.

Automation coupled with advanced AI capabilities is the answer to such pain points — and an unnegotiable way of the future. According to Crawford, AI is already influencing nearly every stage of wide-format production, with the greatest near-term benefit being the elimination of repetitive administrative and production tasks.

For example, the technology is a powerhouse in consolidating and streamlining daunting to-do lists, from generating concepts and resizing designs to creating backgrounds and extending images to producing variations and adapting campaigns for different locations or formats.

AI is a pinch hitter in prepress as well, helping with image enhancement, resolution improvement, file inspection, nesting, and color correction. It even identifies potential production problems before a job reaches the printer — saving print service providers time, financial burden, and headaches.



Image
courtesy of
Mutoh

From automated customer service chatbots to job scheduling, production planning, and inventory forecasting, industry professionals agree AI is changing how businesses sell, estimate, and manage the day-to-day.

As integration between printers and finishing equipment improves, automated cutting, slitting, trimming, and workflow connectivity continue to reduce the amount of manual handling required after printing.

“The most important product developments are those that reduce operator touchpoints, improve consistency, and keep the printer producing sellable work for a greater percentage of the day,” Crawford said.

Looking ahead, expect continued improvements in printhead performance, media control, curing efficiency, automation, remote monitoring, dual-roll production, workflow integration, and predictive maintenance.

When shopping the market, Giglio and Simmering remind shop owners to align themselves with advanced technology that can grow *with* them. It takes the right setup to help print service providers expand their application reach by a suggested 50% annually.

“With the uncertainty in terms of procurement, labor, market conditions, and such, I recommend looking at your capital equipment purchases with scalability in mind,” Simmering said. “Spending a little more to get a machine that can persist through 5-6 years of growth, instead of the next 1-2, will help offset some of the challenges the market faces like ink pricing and tariffs.”



Regional force

As market needs shift and supply chain woes fluctuate, having access to a dependable local supply chain is becoming an increasingly integral part of the equipment value proposition, especially as a way to provide faster delivery, lower shipping costs, and ensure greater supply chain resilience.

For example, manufacturers like Roland DGA worked closely with distributors to secure inventory *before* global tariffs took effect.

“That strategy helped keep products available, reduced the immediate impact on pricing, and gave customers greater confidence that equipment and supplies would be there when they needed them,” Profera said.

While industry professionals note the wide-format supply chain is recovering, the industry is still absorbing tariff impacts via the cost of imported printers, components, printheads, electronics, motors, inks, media, aluminum, steel, and other materials used in manufacturing and production.

“The impact is not always limited to a clearly identified tariff surcharge. It can also appear through higher supplier pricing, increased freight, and administrative costs, longer purchasing cycles, reduced discounting, and more uncertainty when manufacturers establish future equipment prices,” Crawford said.

In response, manufacturers and distributors continue to adjust inventory levels, qualify alternate suppliers, improve forecasting, and hold more critical service components regionally.

Print service providers who tap into these regional networks tend to lessen common pain points that accompany the day-to-day grind — putting them in a position to thrive, rather than simply survive.

The future of wide-format roll-to-roll may look and feel differently, but it is certainly promising. As technological capabilities, consumer bases, and applications mature to entirely new levels, survival of the fittest will hinge on which print service providers are utilizing all the tools at their disposal. **GP**



Stefanie Galeano-Zalutko is the president/CEO of Zalutko Business Services, Inc., a marketing agency based in Central Florida. She can be reached at szalutko@zalutkobusiness.com.



Images
courtesy of
Manhattan
Signs

Making spaces speak louder:

The process behind environmental wall graphics

How Manhattan Signs tackled interior graphics for the National Women's Soccer League

By Anthony DeCrescenzo

When people walk into a branded space, the goal is for them to immediately feel the energy of the environment and recognize that the space was designed with intention. What most people experience is the finished product — the bold graphics, the messaging, and the overall atmosphere. What they often do not see is the amount of planning, technical knowledge, and production expertise

required to bring those spaces to life.

That process became especially meaningful during a recent interior graphics project completed for the National Women's Soccer League (NWSL). The project featured large-scale interior wall graphics and dimensional lettering designed to transform the environment into a visual reflection of the league's identity and influence in women's sports.

Working alongside Maureen Raisch, NWSL's creative director, the project demonstrated how successful environmental graphics are built through close collaboration between creative vision and production execution. While the finished installation created a striking visual experience, the project also highlighted something equally important within the sign and graphics industry: great environmental graphics are not simply printed and installed — they are carefully engineered for the physical space they will live in.

Environmental graphics begin long before production

One of the most important parts of any graphics project happens before a printer is even turned on.

Environmental graphics require teams to think beyond the artwork itself and evaluate how graphics will interact with architecture, lighting, and materials. A design that looks perfect on a computer screen may require significant adjustments once translated into a real environment. That is why site surveys are critical.

During a site survey, every wall, dimension, obstruction, and environmental condition must be documented. Measurements alone are not enough. Teams must also evaluate doors, windows, mounted television screens, light switches, outlets, columns, trim details, and viewing angles throughout the space.

In many cases, those architectural elements directly impact how artwork is produced and installed. For example, if a column interrupts a mural wall, decisions must be made early in the process:

- Should the graphic stop before the column?
- Should the artwork continue through negative space?
- Should the column itself be wrapped?
- Will the interruption affect readability or composition?

Those decisions influence both design and production strategy.

Environmental graphics are unique because they require sign professionals

to think spatially. The industry often receives beautiful artwork files from designers or creative directors, but the responsibility of translating those files into physical reality falls onto production teams, project managers, installers, and fabricators who understand how graphics behave in real-world environments.

Material selection matters more than most people realize

One of the most overlooked aspects of wall graphics is material compatibility.

Not every vinyl adheres properly to every wall surface, and selecting the wrong material can compromise the entire installation. Before production begins, teams must evaluate wall texture, paint type, surface condition, and long-term durability requirements.

Smooth painted drywall behaves very differently than textured walls or heavily-coated surfaces. Certain low-VOC paints can create adhesion challenges, while fresh paint may require cure time before graphics can be safely installed. Dust, surface contamination, and humidity can also affect installation performance.

For large-scale interior graphics, production teams must think beyond aesthetics alone. The material must perform successfully during installation and throughout the life of the project.

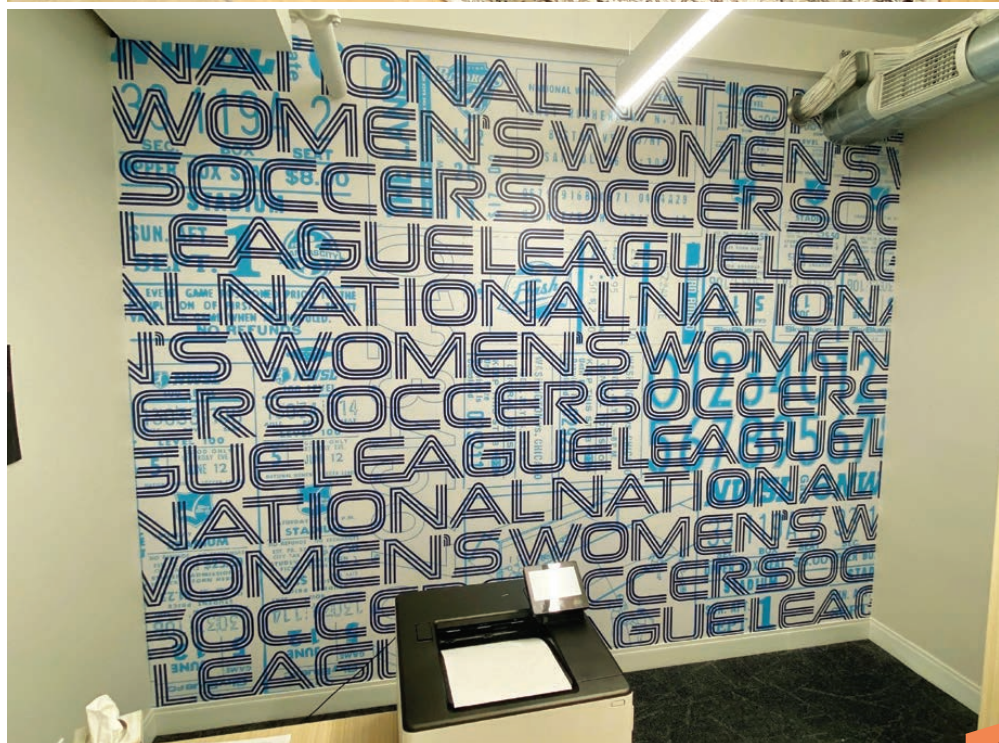
Translating artwork into production files

One of the most technical parts of environmental graphics happens during prepress and production preparation.

Large-format wall graphics often require artwork to be scaled dramatically, and that introduces challenges involving image resolution, paneling, bleed, color accuracy, and file organization. Graphics that appear sharp on a laptop screen may not hold up when enlarged across a 20' wall.

Production teams must verify:

- Image resolution
- Correct dimensions
- Proper scaling
- Panel breaks
- Bleed allowances
- Seam alignment
- Color consistency





Color management becomes especially important in branded environments. Colors must remain consistent across multiple print panels and materials so the final installation appears cohesive once assembled on the wall. This is where communication between designers and production teams becomes essential.

During the NWSL project, Raisch played a major role in keeping production efficient and accurate.

Because she understood how important the technical details were, communication throughout the process was smooth and efficient. If a sizing issue or production concern arose, she updated the artwork accordingly and returned it quickly.

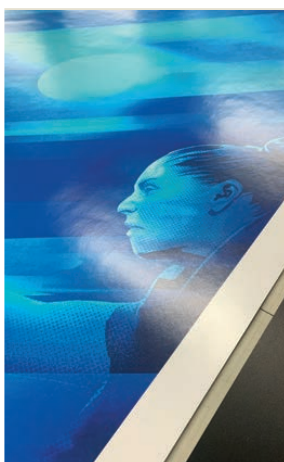
Coordination across departments

Environmental graphics projects are rarely completed by a single person or

department. They require coordination across an entire workflow — from concept to installation.

Prepress teams review and prepare files for production. Print operators monitor color output and material performance. Finishing departments laminate, trim, organize, and package graphics carefully. Project managers coordinate timelines and installation logistics. Installers bring the final environment together on-site.

Even labeling systems become important. Wall graphics are typically organized by room, wall, and panel sequence so installation crews can move efficiently through a space without confusion. We provide installers with a floor plan where each



wall or graphic location is identified using specific numbers or letters that correspond to the production files. Each print is also labeled on the back side at the top of the backing paper, and once the graphics are rolled and strapped for transport, the exterior band is labeled as well to keep the installation process organized on-site.

Wall graphics are typically organized by room, wall, and panel sequence so installation crews can move efficiently through a space without confusion.

More than decoration

What makes wall graphics unique is their ability to shape experience.

Today's workplaces and organizational interiors increasingly

use graphics to communicate identity and create emotional connection within a space. Wall graphics are no longer treated as decoration alone — they are part of how organizations express culture visually.

That impact felt especially meaningful throughout the NWSL project. Seeing powerful imagery celebrating women in sports spread across our production tables and eventually installed throughout the interior space served as a reminder that graphics can carry emotional weight beyond branding alone. The project represented more than wall coverage. It reflected visibility and strength within women's sports.

For the sign and graphics industry, that is often what makes these

projects rewarding. Behind every finished installation is a process that combines creativity, technical problem-solving, production expertise, and collaboration. Sign professionals continuously evaluate how to take artwork from a screen and transform it into a physical environment that functions successfully in the real world.

Environmental graphics require teams to think like designers, fabricators, project managers, and installers all at once. And when all of those pieces come together correctly, the result is a space that does more than look impressive — it communicates something meaningful the moment people walk through the door. **GP**

Anthony DeCrescenzo grew up in the sign



industry and has spent decades working in all aspects of sign design, fabrication, and installation. As the owner of Manhattan Signs, he enjoys helping

clients transform ideas into finished projects through creative problem-solving and hands-on industry experience.

LIFE IN THE FAST LANE:

High-speed graphic production for NASCAR's Richard Childress Racing

Nick Woodward of RCR Graphics Center on the 2026 season & more.

By Ginny Mumm

Nick Woodward, RCR Graphics Center manager at NASCAR powerhouse Richard Childress Racing in Welcome, North Carolina, knows a lot about performing under pressure. Last year alone, Nick and his team designed, produced, and installed more than 300 wraps on some of the fastest cars in the field.

In addition to race car wraps, the RCR Graphics Center produces and installs each car's team branding graphics, including their transport vehicle wraps, promotional signage, displays, and more.

We talked with Woodward about how the 2026 season is going so far, what's new in his production room, and what he's looking forward to this season.

For those who aren't familiar, please tell us a bit about the RCR Graphics Center.

Woodward: The RCR Graphics Center was founded in 2010. We service the entire Richard Childress Racing team, in addition to other clients outside of motorsports. We operate in a 7,800-square-foot facility with eight full-time employees.

How has the 2026 season been for you so far from a graphics perspective?

It has been going great! We are working with a lot of different schemes and some great color combos. You're going to see a lot of red, white, and blue schemes this summer around the 250th celebration of

the founding of the U.S.

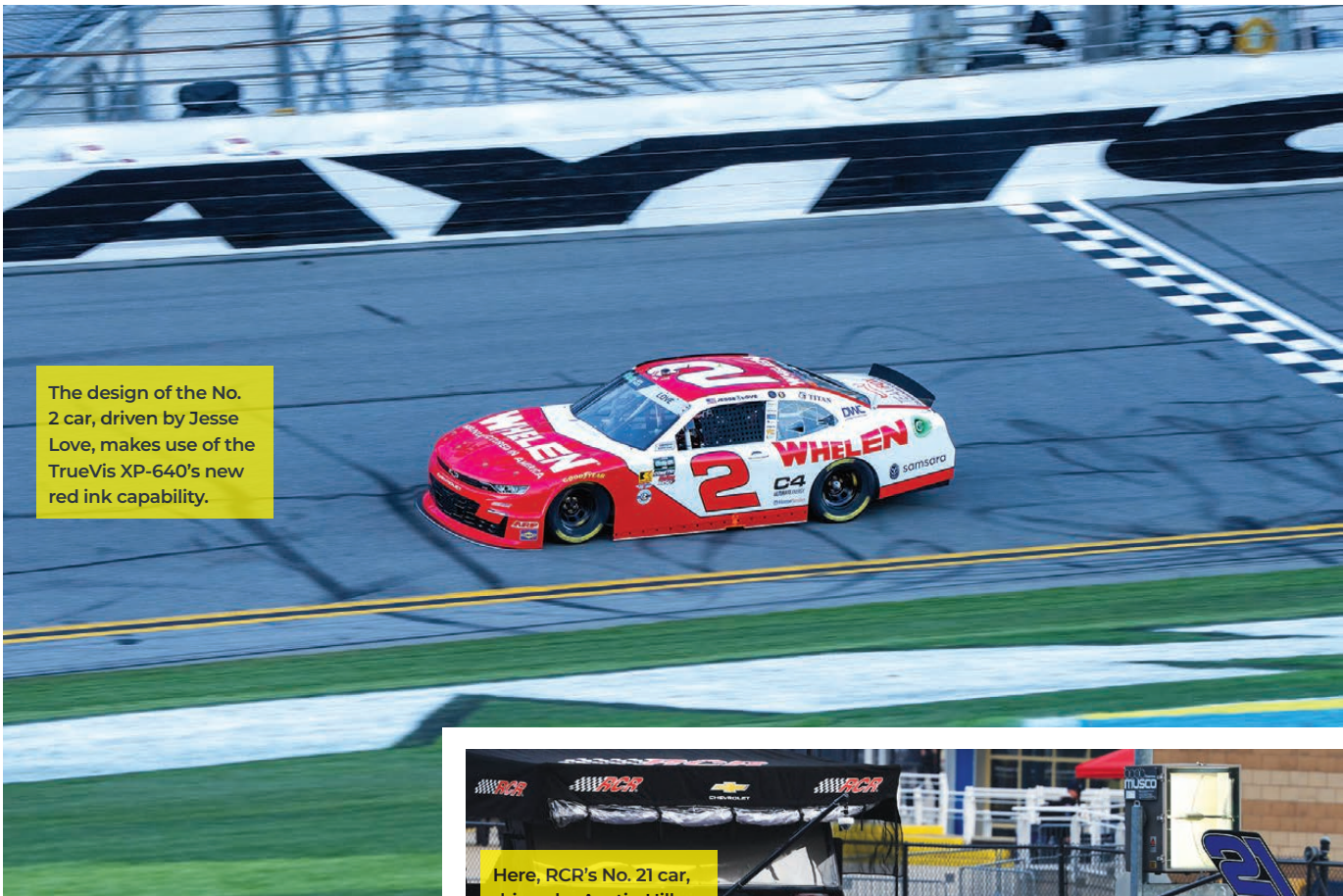
What's new in your production area?

We've been a Roland DG-exclusive shop since 2010. Recently, we added two Roland DG TrueVis XP-640 64" wide-format printers. The XPs are great for speed, and importantly, the additional speed doesn't cause any sacrifice in quality or color vibrance. We are seeing a great color spectrum with the expanded gamut these next-generation inkjets offer, along with a significant increase in production speed. We run both machines almost around the clock each day and have had smooth and consistent production and high reliability.

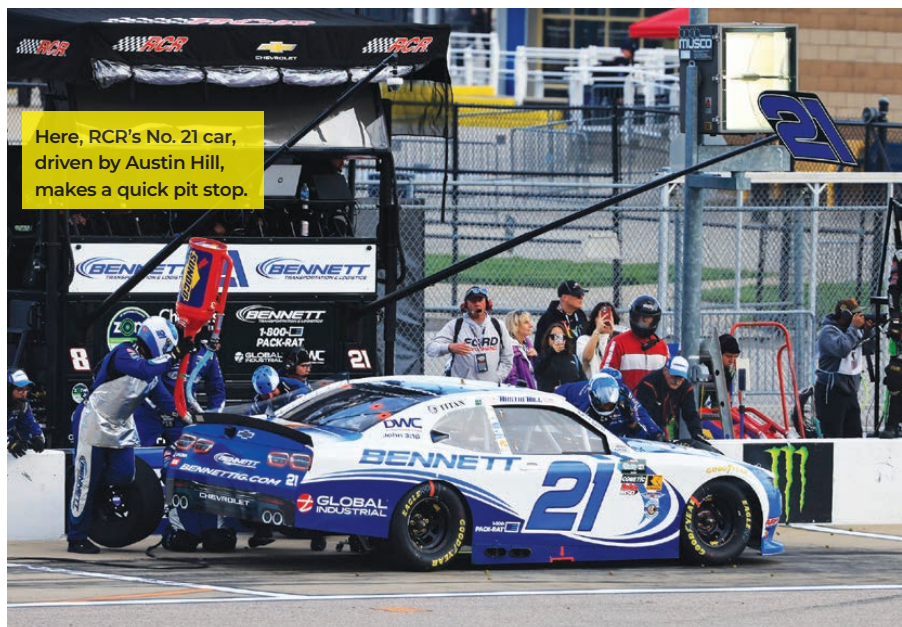


In addition to producing more than 300 race car wraps a year, the RCR Graphics Center also wraps each team's haulers and other branded elements.

Images courtesy of Roland DGA



The design of the No. 2 car, driven by Jesse Love, makes use of the TrueVis XP-640's new red ink capability.



Here, RCR's No. 21 car, driven by Austin Hill, makes a quick pit stop.

How have the TrueVis XP-640 printers performed for you in terms of image quality?

We've seen great detail in each image and color. Some of our wraps have complex images and detailed backgrounds, so the image quality is very important for our prints.

Adding the red ink has also been huge for our program. It seems like everything we print at RCR has red and black in the design, so it always helps to have that color option within the ink set. The red ink also helps us build other CMYK colors better.

Do you need to produce new branding for every team every year?

A few are rebrands from last year, but most designs are new. While the base may be the same in some cases, the logos or branding imagery the sponsor wants to promote often changes. We have some cars that have maintained the same branding and imagery for a while, but we also have brands that change each time we race them to a



Austin Dillon drives RCR's No. 3 car. The RCR Graphics Center ensures the drivers' helmets are wrapped to match.

Kyle Busch drives the No. 8 car, with designs that show off the color range available on the XP-640.



different product or program. Some of the new race car wraps for 2026 are Austin Dillon's No. 3 car, Kyle Busch's No. 8 car, Jesse Love's No. 2 car, and the No. 21 car driven by Austin Hill.

What additional graphics does your shop provide?

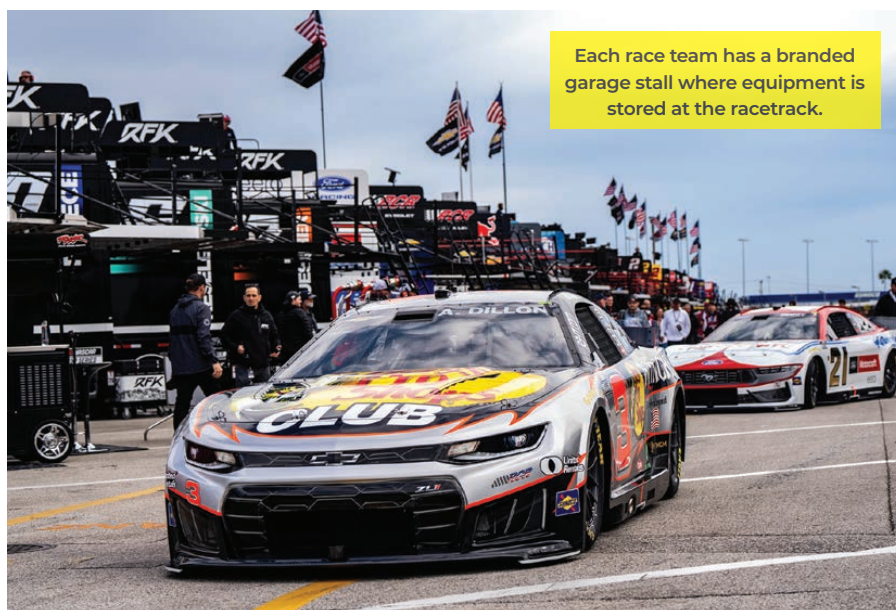
We design, print, and install all of the graphic elements for each team, including the hauler wrap, helmet wrap, pit wall banner, pit equipment wraps, and graphics for the in-car camera.

Did RCR add any new sponsors this year?

We did add a few partners this year, but thankfully, most of our partners have been with us for a while, so we just provide rebranding on their designs as needed.

What are the most critical factors for your shop in terms of print production?

The amount of time it takes to print a wrap is always huge for us because we often work on quick turnarounds, and having the speed of the TrueVis XPs allows us to print quickly and move to installation. We have days where we print in the morning and wrap the car in the afternoon. The amazing thing



Each race team has a branded garage stall where equipment is stored at the racetrack.

about the TrueVis XP printers is that they allow us to maximize productivity without sacrificing image quality and color accuracy.

GP



■ Ginny Mumm

is a freelance consultant for Roland DGA.



RCR has introduced several new patriotic schemes for this summer's 250th anniversary celebration.



Custom patches and emblems from Transfer Express

Transfer Express has expanded its online product offering with the introduction of custom patches and emblems, developed to give apparel

decorators, promotional products distributors, schools, teams, and clothing brands an easy way to create premium, retail-inspired products with low minimums and fast turnaround. Available now through transferexpress.com, the new service allows customers to transform logos into high-quality patches for hats, apparel, bags, and accessories. With minimums starting as low as 12 pieces, decorators can offer premium embellishments without the large production commitments traditionally required. Customers can choose from embroidered, woven, printed, leather, PVC, silicone, chenille, and dimensional 3D options, along with specialty finishes that add texture, depth, and durability.

transferexpress.com

Independent Trading Realtree Hoodie

Independent Trading Co. has expanded its IND4000 Heavyweight Pullover Hoodie lineup with the addition of the all-new Realtree APX camouflage colorway. The high-contrast dark zones and light highlights are designed to provide an excellent backdrop for bright, bold screen prints, puff inks, and thick embroidery logos. As the officially licensed Realtree APX pattern, it elevates this sweatshirt's perceived retail value as the trademarked graphics are hidden within the bark textures. Constructed from premium ring-spun cotton three-end fleece, the IND4000 is engineered to provide a smooth, stable surface ideal for screen printing, embroidery, and embellishment. independenttradingco.com



Roland DG EU2-1000MF

The new EU2-1000MF from Roland DG is engineered to deliver higher productivity and a more predictable production workflow for sign and display

businesses. The EU2-1000MF is designed to remove the complexity of traditional roll-to-roll print, laminate, and mount workflows. By allowing users to move directly from file to finished board, the new flatbed printer helps reduce manual handling, minimize rework, and deliver a more controlled, reliable production process. The EU2-1000MF is engineered for daily, production-scale board printing. Designed to deliver stable output and consistent image quality, it provides a dependable flatbed solution for businesses handling rigid signage, display panels, and decorative applications. Built with a new high-definition printhead, the EU2-1000MF delivers approximately 1.5 times higher productivity than the previous EU-1000MF, while maintaining image quality and operational approachability. rolanddga.com

PRODUCT PICKS

Each month, the GRAPHICS PRO team receives a number of product press releases. Here are a few that recently caught our attention.



Ninja Transfers 40' DTF gang sheets

Ninja Transfers' new 40' DTF gang sheets are designed to give crafters, apparel decorators, and print shops 10 more feet of continuous print space than the company's previous 30' option, letting them fit more designs into a single order while lowering their cost per square inch. At 22" wide and 40' long, the new size holds hundreds of transfers across dozens of designs in one continuous run.

ninjatransfers.com



Gemline Chair Blanket

Gemline has added The Chair Blanket by City Bonfires to its growing assortment of lifestyle and outdoor products. Known as the original Cozy Chair Cover, The Chair Blanket is designed to transform cold, damp, or uncomfortable outdoor seating into a cozy retreat. Featuring a soft fleece-lined side and a weather-resistant protective side, the patented-pending design stretches securely over most camp, tailgate, patio, and outdoor chairs, making it ideal for sporting events, camping, tailgating, concerts, corporate gifting, and cool-weather outdoor gatherings. gemline.com



Images
courtesy
of Fully
Promoted

Raise your glass (mug, cup, or jug)

This upcoming holiday season, be ready to offer branded drinkware that will get your clients seen every day.

By Michelle Monhollen and Robert Steffek

High-end drinkware

seems to be everywhere, kept close at hand by consumers who want convenient hydration in a beverage container instantly recognized for its quality. So, what better promotional vehicle than a mug, cup, or jug bearing the company's logo? We're seeing great demand for this category from organizations looking to recognize customers and employees, and the holiday season should bring even more interest.

The popularity of top names like YETI, Owala, and Stanley has pushed drinkware to just over 10% of annual industry sales, according to the 2026 Ad Impressions Study of the Advertising Specialty Institute (ASI). More than 87% of respondents told ASI they'd keep a branded drinkware item because of its usefulness; more than three-quarters said they'd use it once a week or more and keep it for at least a year.

That translates to about 1,300 lifetime brand impressions, ASI calculates, calling it "one of the highest impression counts for a nonwearable product category."

This is a relatively new wrinkle in the branded drinkware market. A few years ago, many customers were satisfied to give a well-made private-label tumbler, but now ask for recognizable labels that resemble those they already use personally.

Giving products from recognized retail brands creates excitement because recipients already know and trust those names. When the product looks like something someone would purchase for themselves, it immediately has greater perceived value. Pairing retail-grade with tasteful branding encourages recipients to use it frequently rather than placing it in a cabinet. Ultimately, successful branded drinkware becomes part of someone's daily routine instead of simply reminding them who gave it to them.

Drinkware gifts also offer opportunities to reinforce a company's mission or align with the workplace. Healthcare organizations often choose insulated bottles that support employee wellness and last through a long shift. Manufacturers frequently select durable, high-capacity bottles designed for demanding work environments. Schools tend to focus on building spirit and community by incorporating school colors, athletic branding, and student programs, while professional services firms and financial organizations generally gravitate toward premium retail goods with understated decoration.

Although each industry has its own preferences, they're all moving toward products that recipients will genuinely value, keep, and, most importantly, use.

Wish list

Customers today are more focused on performance, appearance, and longevity than on price. This is true all year, but especially during the holidays, when "splurge" is the word.

- **Functionality:** Leak-resistant lids, integrated carrying handles, dual-purpose drinking options, ceramic-lined interiors, and high-performance insulation are becoming expected features rather than premium upgrades.
- **Materials:** Matte powder-coated finishes and neutral colors such as black, cream, sage green, navy, and soft earth tones are top performers. Double-wall stainless steel is one of the strongest categories because it offers great durability, temperature retention, and perceived value.
- **Presentation:** Companies want drinkware that's gift-ready, especially for employee recognition, executive gifts, and holiday programs, so there's increased importance around packaging and decoration. And they're asking for smaller logos and more refined decoration rather than emblazoning the entire cup or mug.
- **Customization:** Laser engraving continues to be one of the most recommended decoration methods because it creates a clean,

permanent, premium appearance that complements today's retail-inspired drinkware.

Think outside the mug

There's no need to limit yourself to simply giving a branded tumbler or saving it until the holidays. This is one of the most versatile branding tools available and works year-round.

Make it part of a coordinated gift set, combining it with gourmet foods, coffee, decorative accessories, or other complementary products.

Incorporate it into employee welcome kits, years-of-service awards, wellness initiatives, sales incentive programs, executive gifts, and client appreciation packages. It also works exceptionally well for company anniversaries, milestone celebrations, fundraising events and customer loyalty programs, because recipients tend to keep and use the products for years.

And go beyond the mug — like one of our clients did. They were looking for an employee appreciation gift to hand

out at a company-wide meeting that employees would continue using long after the event. Instead of selecting a traditional promotional tumbler, they invested in half-gallon Igloo jugs in a color consistent with their brand. Decoration was a high-gloss UV-DTF decal application.

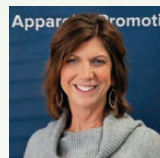
The goal wasn't simply to distribute merchandise, but to gift employees with something they would enjoy using regularly. The feedback was overwhelmingly positive, because the gift felt unique and useful rather than promotional. That project perfectly illustrates how many organizations are shifting toward fewer items that are superior, which creates stronger and longer-lasting impressions.

Cheers to future branding

The future of corporate gifting is likely to continue moving toward products that combine a recognized design with meaningful functionality. Decoration techniques will also continue evolving, allowing branding to become more

subtle, sophisticated, and integrated into the overall design, reflecting higher-end retail characteristics.

Best of all, promotional drinkware will continue moving away from being viewed as a cheap giveaway and toward becoming a practical, premium gift that recipients choose to use daily. What more could a brand ask of its promotional products? **GP**



■ Michelle Monhollen

and **Robert Steffek** are the franchise owners of Fully Promoted Centerville, Ohio.

Monhollen has over 14 years of experience in the promotional products industry. Steffek has extensive experience in retail merchandising,

direct marketing, and promotional products, most recently in vendor relations and product safety and compliance for a local business.



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The 2026 sublimation lookbook

Top trending blanks to grow your
customization business

By Jackie Faeth



Images courtesy
of The Rowmark Group

The demand for personalized products isn't going anywhere, but sublimation customers are looking for products beyond "just another mug." They want personalized products that feel fresh, giftable, premium, and useful. For custom businesses, this shift creates a major opportunity to stand out in the market by updating your sublimation offerings.

The good news is you don't need to reinvent your business! By strategically adding a few new blanks, like wood-look decor, gallery-quality panels, wearable accessories, and utilitarian items, you can raise perceived value, expand seasonal offerings, and build more complete collections.

Here are a few current trends you can bring to life using sublimation blanks.

1 Warm, organic home decor

There's no better place for personalized products than home, and one of the strongest directions in personalization is the move toward decor that feels warm, natural, and handcrafted. Customers are gravitating toward rustic-modern pieces that look at home on a mantel, nursery shelf, gallery wall, or entryway table.

Photo blocks, hanging signs, heart signs, and natural wood-look panels are ideal for family portraits, pet memorials, wedding gifts, housewarming decor, and nursery art. Bright sublimated artwork layered over a warm surface creates depth and character that flat white blanks can't always match. For sublimation businesses, these products are easy to bundle into themes such as "new home," "new baby," "grandparent gifts," or "holiday keepsakes."

Another smart addition is the sublimatable money box or shadow bank. These are highly giftable for weddings, graduations, baby showers, and vacation funds. Instead of selling a single personalized item, businesses can position them as milestone keepsakes that help customers celebrate a goal, memory, or life event.

2 Gallery-quality metals & display panels

Premium wall art continues to be a



high-value category for sublimation businesses. Photographers, artists, schools, teams, corporate clients, and gift buyers all want crisp, durable displays that feel more elevated than a standard framed print. That is where aluminum photo panels, dye-sub panels, and mounting accessories can help businesses move into higher-margin work.

Metal photo panels are known for bold color, clean detail, and a sleek, finished look. Pairing them with standoffs adds polish because the finished piece appears to float off the wall. That presentation works well for senior portraits, sports composites, memorial pieces, fine art reproductions, and branded office decor.

Print-receptive aluminum sheets are another versatile option. They can support signage, awards, nameplates,

and specialty displays. For creators serving businesses, schools, clubs, or events, metal blanks make it easier to offer durable products that look professional and can be ordered repeatedly.

3 Lifestyle wearables & everyday accessories

The personalization market is being shaped by practical items people can use, wear, and carry. Apparel and accessories continue to perform well because they connect self-expression with function. For sublimation businesses, the best opportunities often come from blanks that look boutique-ready before they are decorated.

Linen-look tote bags and crossbody bags fit that demand perfectly. Their textured appearance gives them an eco-conscious, casual style that works

for teachers, bridal parties, market shoppers, travel groups, and small business merch. Add a monogram, destination design, team logo, or illustrated pattern, and the blank becomes a useful gift.

Headwear is also a trend worth building around. Trucker caps, bucket hats, visors, and mesh caps are strong choices for sports teams, summer events, bachelorette trips, festivals, school spirit shops, and local businesses. They are easy to personalize, display, and impulse-buy at craft fairs, pop-ups, and online shops.

One-panel throw blankets are another smart move for increasing average order value. Blankets work well for graduations, memorial gifts, baby milestones, pet portraits, and family photo collages. They take more planning than small accessories, but the finished product feels substantial, and customers often pay more for that emotional impact.

Build a product line customers can imagine buying

The biggest opportunity in sublimation is not simply offering more blanks. It is offering better ideas. A customer may not know they want a linen crossbody bag, a floating metal photo panel, or a personalized savings box until they see it merchandised as a thoughtful gift, event favor, or branded product.

That is why the best product strategy for 2026 is to build small, focused collections around real buying moments. Create a graduation bundle with a blanket and photo panel. Build a wedding collection with a money box, signs, and matching bags. Offer team spirit packages with caps, license plate covers, and drinkware. When blanks are grouped around occasions, customers see value faster, and you can sell more than one item at a time. **GP**



Jackie Faeth has been with The Rowmark Group since 2018 and currently works as marketing coordinator with a focus on content development.

National First Responders Day:

For those who answer the call

Customized tributes that honor courage, service & commitment

By Natalie Albers

Ask the tots in any preschool class what they want to be when they grow up, and at least one student will shout, “Firefighter!” or “Police officer!” Even at that tender age, these kids know heroes when they see them.

Planned, purposeful, and meaningful recognition of the public servants who support our communities is vital to keeping the pipeline of these vocations full, and the engagement of these professionals strong. And on Oct. 28, National First Responders Day, it’s the perfect opportunity to answer the call to recognize police officers, firefighters, and EMS professionals.

Whether your customers need commendations for acts of bravery or gifts that express appreciation, we’ve got ideas standing by and ready to share with cities, counties, and healthcare systems looking to honor the heroes in their communities.

From special accomplishments to

somber remembrances, every moment matters.

Common award types

Within each profession are many specialty awards, but some of the most universally recognized are:

- **Medal of valor:** The highest decoration for bravery, this is presented to an individual who demonstrates exceptional courage, heroism, and selflessness amid danger while in the line of duty.
- **Life saving award:** Recognizes a first responder who acts quickly in an emergency to perform a heroic act that directly contributes to saving or preserving a person’s life.
- **Meritorious service award:** Honors outstanding accomplishments that go above and beyond the call of duty, making a meaningful impact on the community or the department.
- **Officer of the year/firefighter of the year/paramedic of the year:** Applauds the exceptional professionalism, performance, and dedication that sets an individual apart. Recipients embody what exemplary service and commitment look like within the profession.
- **Distinguished service award:** Presented to those who have made significant, lasting contributions to their department, colleagues, and the communities they serve.
- **Rookie of the year:** Celebrates someone new to the profession or the department who has shown remarkable initiative, performance, professionalism, dedication, and commitment early in their career.
- **Volunteer of the year:** Spotlights a reserve officer, volunteer firefighter, or emergency medical professional reserve officer whose extraordinary contributions have made a noteworthy and meaningful difference.
- **Milestone anniversaries/years of service/lifetime service award:** Recognizes dedication and commitment to public service at employment milestones like five, 10, 20 or 30 years or more.
- **Retirements:** Honors the conclusion of a distinguished career — and all the courageous accomplishments and acts of service they contributed from their first day to their final call.
- **End of watch tributes:** Pay respect to first responders who have passed away, especially those who lost their lives in the line of duty. Memorials recognize a lifetime of commitment and especially those who made the ultimate sacrifice. These pieces represent immeasurable appreciation and may be presented to families, departments, or both.



The sky is the limit on customizing awards, thanks to a full range of substrates (crystal, cultured stone, wood, acrylic, and more) and imprint options of deep etch, colorfill, 3D subsurface, Illumachrome, and laser engraving. Here are some designs that can provide a starting point as you help your customers make their selections.



About National First Responders Day

Each year on Oct. 28, everyday heroes are honored for their service, sacrifice, and dedication to their communities. Reach out today to local police and fire chiefs, city managers, hospitals and other municipalities with meaningful ideas for recognizing their people!



As a modern take on the old wood plaque, this display piece boldly recognizes first responders for their contributions. The striking brushed gold aluminum backing pairs with a clear acrylic overlay, which was then customized with a portrait.



This award recognizes an officer of the year with this edgy cultured stone award sporting a carbon fiber texture created through an intricate stone casting process. The contrast of the black base and the vibrant text and department's graphics makes it a standout showpiece.

Front Facing



Rear Facing



Created to honor a fallen officer's end of watch, this memorial features a police badge replicated as a 3D subsurface laser engraving suspended within the crystal. The officer's name and a sentiment are etched on the front and enhanced with white colorfill. A dual-sided imprint of a flag shows through the front, with the reverse side displaying the officer's photo.

Front View



Side View



You can almost feel the water jetting out of the hose in this showpiece featuring a 3D subsurface firefighter and flame graphic visible from front and back, and deep etch with gold colorfill on the front. Add a lighted base for even more awe!



A sleek acrylic design with bevels that mimic the movement of a flame, this award is a lighter-weight yet refined choice for a firefighter. The large imprint area accommodates a full-color imprint, allowing plenty of space for the firefighter graphic.



A deep red vertical edge transitions into a clear crystal wave, creating a classic approach to an award honoring a first responder. Shown with deep etch and white colorfill.



■ **Natalie Albers** is a Twin Cities-based writer and editor with more than two decades of communications experience for small businesses and large corporations. Natalie serves as communications manager at Crystal D and is passionate about recognition, as well as about helping organizations connect with their people in meaningful ways. Images courtesy of Crystal D

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1822GD 6.5 OZ GARMENT DYE CROPTANK

The Crop Tank is the perfect combination of a sophisticated yet playful silhouette. A squared neckline adds sophistication, while a fitted and cropped length adds to the playfulness of this garment.

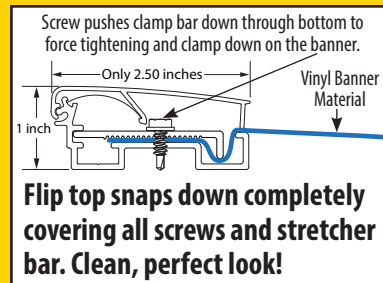
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GP0425

IS DTF *LIVING UP TO THE HYPE?*

Three shop owners share what direct-to-film printing has actually delivered to their businesses

By Adrienne Palmer



**TORQUE
DIESEL**
BUFFALO, WY

DTF printing has taken hold of the decorated apparel industry. According to the Printing United Alliance's most recent State of the Decorated Apparel survey, the number of shops offering DTF in-house has grown since the previous survey period, the vast majority of respondents expect adoption to keep climbing, and a significant portion have converted screen printing capacity to DTF.

Keypoint Intelligence's 2024-2029 Global DTF Forecast adds that print volume, consumables, blank apparel, and retail value are all expanding faster than hardware placements and revenue.

This means shops are using their DTF machines more and more productively, not just buying new ones. The shirts printed, the ink consumed, the blanks decorated, and what those garments sell for at retail are all growing faster than the number of machines being placed or the revenue from selling them.

The global DTF retail value is projected to grow from \$13.2 billion in 2024 to \$55.2 billion by 2029. According to Keypoint Intelligence, "DTF has transitioned into a production-driven apparel technology, with growth increasingly defined by utilization, throughput, and repeat programs rather than system proliferation." In North America, entry-level placement growth sits at 1.1% compound annual growth rate (CAGR) through 2029, while systems in the commercial and production tiers are growing at around 11% CAGR.



Images courtesy of Game Gear

What businesses are still figuring out is whether it delivered what it promised. Three shop owners weigh in.

Taho Sportswear | Fridley, Minnesota

Mark Aho has been in the decorated apparel business for more than four decades. His business, Taho Sportswear, which merged with GLS Promotions in 2024, runs four MHM automatic presses, 71 heads of embroidery, two commercial Velox DTF machines, laser engravers, UV printers, and a full range of wide-format equipment. A team of 46 keeps production moving. Aho was among the first three shops in the Minneapolis region to invest in a large commercial DTF machine, nearly five years ago.

Taho Sportswear just bought a new MHM 8-color, 10-station automatic press. A year ago, Aho was looking at a 14-color press. He chose the smaller configuration, saving roughly \$40,000, because DTF now handles the high-color work that used to require more screen printing capacity — things like LGBTQ+ Pride designs, race car graphics, and other complex multicolor jobs.

“We decided we could move most processes or high-color jobs to DTF,” Aho said. “The savings give us the ability to also invest in higher-speed DTF carousels or faster presses down the road, and our space footprint is smaller.”

The press purchase didn’t come at the expense of screen printing. “Notice we also added another screen press,” Aho said. “There is room and need for both.”

Color count is the first factor when routing a job. After that, the deadline and workflow come into play, then the desired hand or effect. “Many customers are understanding the difference and have a method they like better,” Aho said. “We have them asking for both.”



ART DETAILS

FULL BACK
11"W x 11.9"H

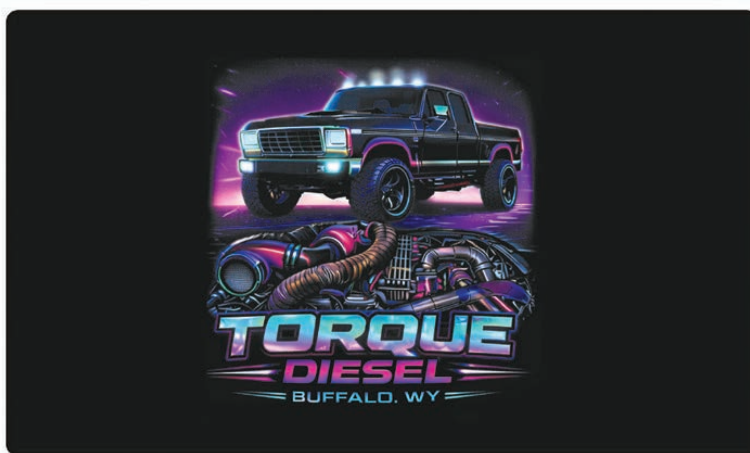


Image courtesy of Game Gear

DTF also handles short runs and small reorders, and has opened up unexpected territory for Taho Sportswear. Customers have started requesting small images applied with extra passes on polo and golf shirts to simulate the look and feel of silicon printing. “It’s also a nice fill-in or small reorder option,” Aho said.

With DTF printing marketed as a low-barrier to entry, full-service shops are up against operators running tabletop machines as a side hustle. Aho thinks the decorated apparel industry undersells itself. “So many in our industry forget they are artists with a very special skill set, and we cheapen that too often,” he said.

“I’ve said no to many of the flash-in-the-pan methods and processes out there over the years,” Aho said. “This one grabbed me as a game changer from the first time I saw it. DTF has helped a new department take off.”

Get It Got It | Buffalo, Wyoming

Bryan Wampole started Get It Got It as a side business in 2007. The shop spent its first 16 years in Pennsylvania before relocating to Buffalo, Wyoming,

in 2023. Courtnee Wampole, managing partner, came on full-time in 2024. In-house equipment includes a Vastex manual press, a Tajima 6-head embroidery machine, and heat press equipment. DTF is outsourced, and that’s a deliberate choice.

“We were screen printers first, but DTF became a necessity as the industry changed,” Wampole said. “We already had a heat press to do vinyl names and numbers for player jerseys, so when DTF entered the space, it made sense to add a print method that allowed us to say yes to small orders with intricate details or lots of colors.”

For shops outsourcing DTF, Wampole said the supplier relationship is what makes the difference. “A lot of it came down to finding the right DTF partner that was willing to work with us to educate us about the process and provide a great product that we were proud to send out our door,” Wampole said. “Once you have those two things dialed in, DTF makes it so easy to say yes to those



Images courtesy of Game Gear

orders that you would never set up a screen print job for.”

Labor costs, equipment costs, and interest rates all factor into the decision to stay outsourced. “I would rather have someone else have the headache of keeping those machines running,” she said. “I’m all about focusing our time and energy on selling more versus bringing different print methods or equipment in.”

After moving to the small mountain town, the shop saw an opening. Customers were

coming in looking for Bison gear, the local school mascot, only to find the wrong size or the wrong style elsewhere. Get It Got It now keeps five to 10 transfers on hand, cycling them out as seasons change. Blank products in school colors sit at the front of the store. Customers pick their garment, pick their transfer, and have it pressed while they wait. The DTF partner ships same day, so replenishing stock midweek isn’t an issue.

“People 100% know to come in specifically for it,” Wampole said.

“We are usually super busy on Thursday and Friday game days or before a big championship or meet.”

AI-generated artwork has made DTF more complicated for Get It Got It. Customers increasingly arrive with full-coverage, full-color images generated in tools like ChatGPT, convinced the design is print-ready. Full-coverage backgrounds don’t translate cleanly to DTF without adjustment. Halftoning produces a much softer hand and better wearability without changing the look, but getting customers on board is its own conversation. “We have to tweak,” Wampole said.

For higher-quantity runs with fewer colors, screen printing is still more economical. “For those jobs that are a few hundred pieces and a few colors, we are always going to screen print those,” Wampole said. “Likewise, we have been screen printing for so long that we can still screen print larger jobs faster than someone can press them.”

Game Gear Indy | Indianapolis

Chris Theis launched Game Gear Indy as a family-owned business that has grown over the past two years into a dedicated team serving schools, sports programs, and local businesses. “We want to become a trusted partner by providing uniforms, spiritwear, online stores, and apparel programs that organizations can rely on year after year,” Theis said.

The shop runs DTF in-house on an Epson SureColor G6070 printer and a Hotronix heat press. Embroidery and screen printing are handled by local contract partners when volume calls for it.

“We wanted to invest in one machine that gave us strong margins and a lot of flexibility,” Theis said. The model works well for schools and teams ordering without large minimums or long lead times. “It just fit with how people are ordering now,” he said.



Images courtesy of Get It Got It



Images courtesy of Get It Got It



Game Gear does not sell individual transfers or gang sheets. “We use DTF as part of a complete apparel decoration solution, producing finished apparel and helping organizations build consistent branding and apparel programs rather than simply printing transfers,” Theis said.

Theis expected to spend time educating customers about DTF. Game Gear even produced marketing materials explaining what it was. That turned out to be unnecessary.

“The reality was that most customers didn’t know or pay much attention to the decoration method,” Theis said. “They liked the variety, the colors, and the option to order when they wanted instead of only being part of one group order.”

A local church put that flexibility to the test. When a vacation Bible school program had more attendees than expected, organizers reached out on a Wednesday afternoon hoping for a quick turnaround on

additional shirts. The blank was a color not available locally. Theis sourced it for next-morning delivery, printed the transfers, pressed the shirts, and had them ready before Thursday’s final night.

Shipping costs on smaller orders are the ongoing challenge. Theis orders once or twice a week, batching jobs to stay within a 10- to 14-day delivery window and hit free shipping thresholds. When a rush doesn’t allow for that, they work with contract printing partners in their supplier’s decorator network for next-day pickup. “Right now, the biggest limitation is shipping costs,” Theis said. “DTF makes it easy to offer smaller, more flexible orders, but shipping those smaller individual orders affordably is still something we have to work through.”

Is DTF worth it?

Shipping costs can eat into the margins that make small runs worthwhile. AI-generated artwork is creating new friction at the design

stage. Hobbyist competitors are undercutting pricing across the board. And yet Aho restructured a major equipment purchase around DTF and calls it a game changer. Wampole built something no one else in her market offers. Theis built his whole business on it. None of them are saying DTF failed to deliver. For shops willing to figure out where it fits, the hype held up. **GP**



Adrienne Palmer

has 13 years of experience in editorial leadership, branded content, and print and digital media.

Through her consulting company, AP Media Group, she helps apparel decoration and wide-format digital print brands elevate their message and engage audiences through high-impact content and strategy. She is currently the VP of Fabric, an executive coaching program for progressive print shop owners.



Leveling up your decorated apparel

with

mixed media

Your guide to combining screenprinting, embroidery
& heat-applied graphics applications

By Megan Griffith

In an industry oversaturated with people looking for a quick buck with AI art sloppily thrown on a shirt, it can be difficult to stand out with something expertly unique. Mixed media decoration can be a distinctive way to flex your talent and skill.

Mixed media decorating involves combining two or more decoration applications into one cohesive artwork to create dimension, texture, detail, and, in some cases, intricacy to a piece. Utilizing mixed media can elevate a garment from a basic wearable to a

standout statement. If you've never tried mixed media or are just looking to expand your game, we've got the guide to get you started.

First things first

No matter how complicated or simple the project, the key to success is working out the potential roadblocks at the art level instead of on the machine. Do research on what other people have done: watch videos, talk to people in the industry, and read articles. Someone somewhere has worked through some of the hard parts so you don't have to figure it out the hard way.

Talk through the project with your team

No one is going to know every intricate detail of the process and what is needed, so communication is key. Building the art so it's successful in screenprinting AND embroidery will require working with the whole team to consider the respective details. Talk through the project with everyone involved so you don't create headaches in production.

Make a plan

Most projects you can move forward into production without needing to work through every detail. With mixed media, you need a solid plan. You need to know which applications are



Images courtesy of P&M Apparel

For this design, we wanted to go for more of a vintage rock vest look. We started with creating a patch: printing an eight-color design, then adding embroidery on top. There is embroidery built into each tentacle and highlight of the kraken. We then bleach distressed the patch itself, and grunge-sewed it onto the vest, adding more distress to the edging as we went and throwing in some safety pins to complete the look.

happening in which order. You need to know the products they are going on, the colors, the size restraints, everything. You need to know how your applications are going to work together and how they're going to line up.

You've got your idea, but you don't know the best decoration methods for the job. Let's break down the three main decoration methods to figure out what works best to implement your plan.

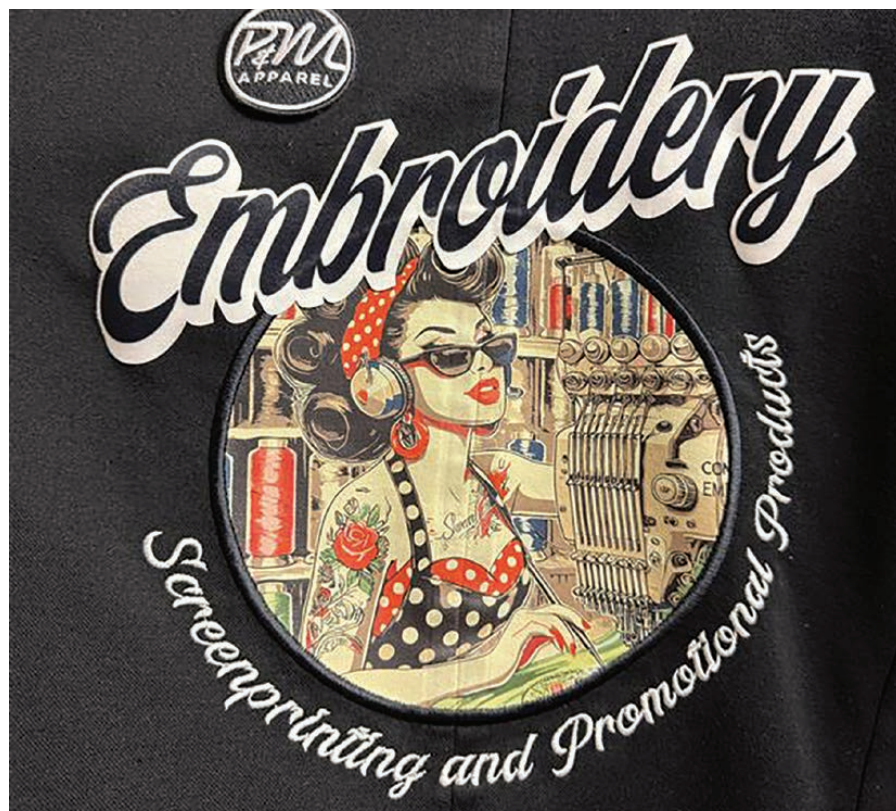
Screenprinting

Utilizing screenprinting is an efficient way to get high detail, complex design, and a soft hand over a large area of the garment. When building up your screenprint file, consider the other decorations you're applying.

If you're doing embroidery, you need to take into consideration how the embroidery will line up on the design. Account for distortion on the print and don't make the lineup so tight that it's impossible to hit the mark. Embroidery can go on top of the print, so expanding the art to give your embroidery a little wiggle room will help.

Conversely, if you're adding heat-applied glitter, puff, or a patch, the plastisol can deter adhesion, so you want to make sure you're leaving space to add that decoration free of plastisol.

If the design calls for foil, you need to either mix an additive into your plastisol to block adhesion, or you need



This piece incorporates several different decoration methods. We started with DTF for the main design and sewed a satin stitch around it and embroidery on the bottom. We then used an applique for the word "Embroidery." Finally, we added a heat-backed patch logo.

to design so the area you want foiled is separate from what remains just plastisol.

Embroidery

Garment

Not every product that can be printed can be embroidered, and vice versa. Consider the weight and stretch of the garment before adding embroidery on top of another decoration. But

also, there are some pieces that have embroidery pockets built in, but can't easily be loaded onto a screenprinting platen or printed with multiple colors. On some occasions, we've had to do a lot of hand-sewing to deliver the product the client wanted.

Primary decoration

Consider any decoration that comes before or after embroidery.

First, we printed a five-color design, accounting for where the embroidery would be placed, on a flat piece of fabric that we'll turn into essentially a giant patch.



Second, we made a map of how we'd place the embroidery using the digitizing file and anchor points.

Third, we created the patch and cut it out of the fabric.



user? How will it sew out? Considering all the possible issues before you hoop your work will save a lot of issues during the process.

Heat-applied graphics

Materials

With digital transfers, you're taking into consideration both the garment and the transfer material, as you're pressing them both together. Some fabrics can't handle the heat well, and some fabrics have too much texture or seams to be successful.

Mixing with embroidery

When combining with other decoration methods, digital transfers can be really helpful in getting more detail and color into something needing embroidery. We've utilized transfers to make mixed media patches when the client wanted more detail than a needle can achieve. Remember, embroidery is punching holes into your garment and transfer material, which can compromise the adhesion if not done correctly.

Mixing with screenprinting

Our favorite way to incorporate transfers into screenprinting is making it an even more custom experience for the client. We take a screenprint that is mass produced and leave space to add things like a name, graduation year, or major incorporated right into the design, making it completely unique to the end user. We'll also use glitterflake HTV to make parts of a design pop with glitter. Leave space for distortion when using glitterflake, just as you would for embroidery. Faux leather patches are another great way to add dimension to your screenprint.

Troubleshooting

How would you even price something like this?

Mixed media is not for skimping on pricing. This takes more planning and execution than any of its parts individually. At a minimum, you're charging exactly what you would for each of the pieces individually, and then considering any additional prep



Final product, with the additional embroidery and patch sewn on.

Screenprints can distort ever so slightly, pulling off the press or under the flash. The print could still look great, but won't line up with your embroidery file. Transfers don't have as many issues with distortion, but embroidery will be punching holes into the material and could cause adhesion issues after washing. If adding decoration after embroidery, you can run into texture and adhesion problems if overlaying the embroidery.

I try to reserve embroidery for the last decoration method for this reason.

End result

As we've started experimenting with 3D mixed media builds, we've had to work backwards with the end result and plan accordingly. What kind of materials do you need to incorporate to make it a success? What does washability look like? How will it look and how will the design land on the

time and building it into the cost. You have to consider this more like a range of custom, unique wearable art when setting up cost. The right client is not looking for cheap; they're looking for something amazing.

Order of operations

Considering the order you apply the decorations is critical. Embroidery, patches, anything with dimension needs to be last, and everything underneath it needs allowance to cover any shifting of the garment in the process. Build in registration marks not only for printing, but for embroidery as well, so registration is easier.

How do I get my team on board?

Beer helps. This is probably the trickiest part, because your production team is going to be the one dealing with every production headache while enacting your vision. Pulling them into the conversation before the art starts getting developed will fix a lot of headaches. Being on press or at the machines to help with tweaking will help too. Finding people who care about being inventive and stretching the limits helps too.

With the right planning and creativity, mixed media decoration can be a great tool in your arsenal. The more customers look for something new and different, the more valuable a shop can become by just getting experimental and trying to think outside the box (or T-shirt). Start with making stuff for your own branding and use it to show off just what you can do with their brand. **GP**



Megan Griffith co-owns P&M Apparel in Polk City, Iowa, with her brother, Ryan Toney. Their print shop is third-generation family and woman-owned, and was

founded by a WWII veteran. Megan is a 2024 Women in Screen Printing award winner, 2018 Business Person of the Year award winner, and 2017 Screenprinting magazine Rising Star Award winner.



This build was really tough because we had a lot of pieces it was going on that required using the decoration zipper for embroidery, but that wouldn't work for screenprinting. Three-color design applied right to the garment, and then embroidery built into all the details (in turquoise).



Starting with a separations file for screenprinting, we then built the wings of the luna moth using plastic sheeting to give the rigidity needed for them to stand on their own. We used the thorax of the moth to attach the wings to the garment and allow the wings to pop off the garment.



What is RIP software

And what does it actually do?

By Andy Everding

If you've spent any time in the wide-format print world, you've probably heard the term "RIP software" tossed around. Print shops swear by their RIPs. Manufacturers list RIP compatibility as a selling point. But when you press someone to explain exactly what a RIP does beneath the surface, most can't tell you.

Our team at IT Supplies supports 11 different RIP solutions from multiple manufacturers, spanning seven different ink technologies, and we install and train on them every week. Understanding the mechanics behind that software is something we think every print professional can benefit from because when you know what's happening under the hood, you make better decisions about hardware, profiles, and settings.

Starting with the name

RIP stands for **raster image processor**. That name tells you more than it might at first seem.

A RIP is software that takes a digital print file — a PDF, a TIFF, a layered design — and translates it into a format a printer can actually use. Inkjet printers don't speak in vectors, gradients, or color modes, they speak in dots. So the RIP's core job is to take whatever you've designed and convert it into a grid of individual dots, each assigned a precise color. That grid is called a raster image, which is where the "Raster" in RIP comes from.

How the conversion works

Think of a raster image as a mosaic. Stand close and you see individual colored tiles. Step back and your eye blends them into a continuous image. A RIP is the software that decides exactly what color each tile needs to be so the finished mosaic looks right from a normal viewing distance.

The process that makes this work is called **halftoning**. When a RIP halftones an image, it breaks it down into a pattern of small dots with varying sizes and positions. Dark

areas get larger or more densely packed dots; lighter areas get smaller or more spread-out ones. The RIP uses mathematical algorithms to determine the optimal dot placement so the final print faithfully represents the original file.

This is happening in a matter of moments, though for large or complex files it can feel like an eternity when you're standing at the printer ready to run a job. Understanding the computation involved — analyzing every pixel, calculating dot placement,



Image courtesy
of Andy Everding,
generated with
ChatGPT

balancing color — makes that wait a little easier to accept. It also explains why RIP manufacturers publish recommended hardware specs. The faster your processor and the more RAM you have, the faster the RIP can work through those calculations.

The role of custom profiles

The conversion from digital file to raster image is not a perfect process. It can't be, because no printer and paper combination can reproduce the full range of colors that exist in a digital file. The color gamut of your ink set, the absorption characteristics of your media, the resolution of your print heads — all of these constrain what's achievable in the physical world.

This is exactly why custom International Color Consortium profiles matter so much. A custom profile tells the RIP specific information about how your particular printer behaves on your particular media: the exact color that results from any given ink mix, the color gamut it can reach, how ink spreads, and how the substrate's own white base and absorption affect the final result. Armed with that information, the RIP can make far better calculations during halftoning and produce output that much more closely matches what you see on screen.

A generic profile is like an off-the-rack suit cut for the average body. A custom profile is one measured to your individual body. The RIP can only work with the information it's given, so the more accurate that information, the better the result.

Handling what can't be reproduced

Even with a perfect profile, the printer faces a basic physical limit. It builds every image out of individual dots, and it can't hit every "in-between" tone directly. So, to reproduce the range of tones and colors in your file, the RIP has to simulate them — arranging dots in patterns that your eye blends into the color you're after. This step is called screening, and two of the most common approaches are ordered dithering and error diffusion.

Ordered dithering works by



Image courtesy of Andy Everding, generated with ChatGPT

distributing dots in a fixed, repeating pattern to simulate tones that can't be hit with a single solid dot. It's computationally efficient, which makes it fast. This is also great for production environments where throughput is a priority.

Error diffusion is more intensive. It's actually a form of dithering itself, just a more sophisticated one. Rather than following a fixed pattern across the whole image, it processes each pixel individually and spreads any conversion error to neighboring pixels. The result tends to be smoother gradients and finer detail, at the cost of longer processing time.

Neither method is universally better. The right choice depends on the image, the substrate, and what you're optimizing for — speed or quality. Most RIP software gives you control over which method to use, and experienced operators often switch between them depending on the job.

One function, many solutions

All of this — turning your image into dots, applying the profile, and deciding how to handle what the printer can't reproduce exactly — is the core function every RIP performs. But from there, each RIP has its own strengths, features, and selling points.

The 11 RIP solutions our team supports all accomplish the same fundamental task, yet they differ significantly in interface design, color engine, screening methods, supported

devices, and additional features. Some are built for production speed. Others prioritize color accuracy or ease of use for operators who aren't color experts. Some are designed around specific printer families while others are more universal.

Choosing the right RIP isn't just about picking the one with the most features. It's about finding the one that fits your workflow, your equipment, and the type of work you're producing. If you've been using the same RIP for years without evaluating what else is available, it may be worth having that conversation. The options have expanded considerably, and what's available today might be a better fit than what you chose just five years ago.

Understanding what's happening inside your RIP software helps you make better decisions about profiles, hardware, and settings. And at the end of the day it helps you make better prints. **GP**



Andy Everding is a seasoned leader in digital imaging. Over 15 years at IT Supplies, he's helped print businesses of every kind—photo labs, sign shops, apparel

decorators, and fulfillment operations—find the right printing solutions. He co-hosts The Extended Gamut Podcast and is a frequent contributor and host on the IT Supplies YouTube channel—passionate about elevating craft through cutting-edge technology.

From file to finished

Redefining the DTF process · By Aaron Montgomery

A customer sends over a logo, orders 75 shirts, and needs them in five business days. At first glance, it feels like an easy job. The printer is running, the press is hot, and everyone assumes the order will move through production without much trouble. Then the red starts to look orange. The fine lettering begins to disappear. Powder sticks where it should not. A few shirts lift after pressing. Suddenly, that nice, profitable order turns into wasted garments, reprints, overtime, and a customer who wants to know why the shirts are not ready.

When this happens, we drill down and start looking for the culprit, and the printer is a favorite scapegoat. It is the biggest and most expensive piece of equipment in the room, so it becomes the easy target. The truth is that DTF success does not begin and end with the printer. It depends on the full path from the artwork file to the finished garment. That includes color setup, ink, film, powder, curing, cutting, pressing, workflow, and quality control. Each step passes the job to the next one, and a small mistake early in the process can become a much bigger and more expensive problem later.

The trouble is that busy shops often react instead of review. Someone changes the press temperature. Someone adds more powder. Someone runs another cleaning. Someone else blames the artwork. Before long, five different things had been changed, and nobody really knew which one helped or which one made the problem worse. That kind of guessing may feel fast in the moment, but it usually creates more confusion. A better approach is to stop treating each failure like a separate mystery and start looking at the entire process from file to finished print.



DTF is a connected system

We typically choose the drilled-down review because many decorators have pieced together their DTF workflow, choosing a printer from

one vendor, then a shaker/dryer from another. They pick ink, film, and powder that are the least expensive they can find, scouring the dark corners of the internet, thinking they will make them more profitable, and they use a heat press they inherited from the last owner who sold for pennies on the dollar because they were going out of business. And at no point in time do they look at the entirety of the process and how all those parts and pieces fit together. Is the shaker/dryer compatible with the ideal printing speed of the printer? Or does your shaker/dryer constantly put out overcured or undercured transfers, and do you know how to adjust for changing environmental challenges that might be affecting your colors? Is your film, ink, and powder receipt tuned to your printer and shaker/dryer? I have seen people have difficult-to-diagnose issues because they are using a film that is only coated on one side to save a few nickels, and the feed has the micro slips that pulls your vertical alignment out, causing lost details and transfer capability. This list could go on and on.

And we have not even yet covered the need for quality artwork and trained operators who understand the nuances of the transfer with the different types of material they might be pressing. I would argue that it is time to stop for a moment, step back from the issue, and evaluate your entire process from start to finish. Good equipment cannot rescue poor artwork, mismatched supplies, weak curing, or careless pressing. A reliable process beats heroic last-minute problem-solving.

That evaluation should begin with the finished product, not with the printer settings. What type of garment are you decorating? How large is the design? Does it contain fine detail, bold blocks of color, small lettering, or smooth gradients? A lightweight performance shirt may respond very differently than a heavy cotton hoodie, and a large back

print may require a different approach than a simple left chest logo. You also need to consider how the garment will be worn and washed, how soft the transfer needs to feel, and how important exact color matching is to the customer. When you start with the result you are trying to create, you can make better choices throughout the process instead of forcing every job through the same settings and hoping it works.



Build checkpoints into the process

The first checkpoint is the artwork. Long before ink touches film, the quality of the file is already shaping the final result. A logo may look perfectly fine on a phone or computer screen, yet fall apart when it is enlarged to 12" wide. Small text can appear to restrict, thin lines can disappear, unwanted backgrounds can sneak through, and low-resolution images can print soft or jagged. Take a few minutes to review the actual print size, resolution, transparency, fine details, and color setup before sending the job into production. Fixing a file at this stage may take a little extra time, but it costs far less than discovering the problem after 50 shirts have already been pressed. And as a company, what is your policy on artwork? Will you fix files for free forever, wondering where all your profit and time go, or do you need to clearly define what print-ready artwork is and what it costs for your company to take their design to that stage?

The next checkpoint is color and RIP setup. The color you see on a monitor is not a promise of what will come out of the printer. Screens create color with light, while your printer works with ink, film, profiles, white underbase, and a group of settings that all affect the result. Make sure the correct printer, media profile, resolution, ink limits, and white layer are selected before releasing the job. Be careful about changing several settings just to chase

one stubborn color. You may improve that one red and create problems with five other colors. Printed color charts, approved customer samples, and saved settings for repeat jobs can remove a great deal of guessing.

Then comes the recipe of ink, film, and powder. These three supplies need to work together with your printer and curing system. Buying each one from the lowest-cost source may save a few dollars on the front end, but it can create dull color, poor release, heavy texture, oily prints, weak adhesion, or adhesive sticking outside the image. Start with one proven combination and learn how it behaves before testing other products. When you do make a change, change one item at a time and record what happened.

White ink is the foundation beneath the color, especially when you are printing transfers for dark garments. Too little white can make the colors look weak, dull, or muddy. Too much white can create a heavier feel, require more curing, and even contribute to adhesion problems. Many people assume that running white ink at 100% or higher is the ideal setting, but the real goal is to use the least amount of white needed to create a bright, solid base. If your ink requires excessive white ink levels just to produce a clean result, that may be a bandage covering up poor ink quality. You also need to watch for nozzle issues, banding, poor agitation, and uneven white coverage. Some separation is normal, and using an ink roller to keep white ink moving is part of good maintenance. If the ink quickly separates into two distinct layers, though, it may not be the bargain you thought you were buying.

Adhesive powder also requires balance. You want a transfer with a soft feel, but you still need it to hold up after repeated washing. Some very fine powders promise an extra-soft hand, yet that softness can come with weaker adhesion and poor washability. You also need to think about what is happening in the shop. If your production area looks like a bakery with white “flour” covering the equipment and floor, remember that powder is also floating in the air your team is breathing it in. Look for OEKO-TEX-certified powder, and make sure

you understand exactly what level of certification is being claimed and what it covers within your production process. Moisture, static, powder condition, and shaker settings can all change how evenly the adhesive coats the transfer. Take a moment to inspect the powdered image before it enters the dryer instead of assuming the shaker handled everything correctly.

Curing is when the adhesive powder is fully melted, and the transfer is prepared for the garment. Undercured transfers may look grainy, feel uneven, or fail once they are washed. Overcuring can leave them oily, dull, brittle, or difficult to work with. Time and temperature matter, but the numbers on the machine do not tell the whole story. Airflow, humidity, production speed, and the amount of ink and powder can all change the outcome. Your team needs to recognize what a properly cured transfer looks and feels like instead of trusting the display and sending every transfer down the line. Outside of specialty products like glitter transfers, hot peel has become the standard. Building your workflow around cold peel adds time and labor that most shops can no longer afford. Once cured, transfers should also be protected from moisture, dust, scratches, and careless stacking.

Pressing is the moment when every earlier decision gets tested. Temperature, time, pressure, garment type, and platen accuracy all matter. A lightweight performance shirt may react very differently than a heavy hoodie, and seams, pockets, zippers, or fabric treatments can keep the press from applying even pressure. Test unfamiliar garment and transfer combinations before committing to the full order, then inspect the finished piece for placement, adhesion, color, feel, and garment damage. Quality control does not need to become a complicated department with clipboards and matching jackets. It simply needs to happen before the customer becomes the person who finds the problem.



Put the process into action

Once you understand each checkpoint, the next step is to get the process out of your head and onto paper. Choose one common order your

shop produces, then follow it from the customer's file through the finished garment. Write down every handoff, setting, decision, and inspection point. Pay close attention to the places where your team is guessing, relying on memory, or completing the same task in different ways. Those are the spots where mistakes, delays, and reprints are most likely to show up. A simple checklist can create consistency without turning your shop into a place where someone needs three signatures to load a roll of film.

From there, create a golden sample for that product. Keep one approved finished piece, then record the artwork setup, consumables, printer settings, curing conditions, press settings, and any other details needed to repeat the result. Place the sample where your production team can compare future work against it. “It looked better last time” is not a quality standard anyone can follow. A physical sample and a written process give your team something clear to aim for. Start with one of your most common products, get it right, and then build your library one proven process at a time.

When something goes wrong, resist the urge to change five things at once. Identify the problem, adjust one likely cause, run a small test, and record what happened. That simple habit turns frustration into learning and helps protect your profit, because waste includes more than ink, film, and powder. It also includes garments, labor, machine time, shipping, customer trust, and your attention. You do not need to rebuild your entire shop tomorrow. Find the next weak point, strengthen it, and keep moving forward. DTF success comes from doing the right things in the right order, then repeating them with care. **GP**



■ Aaron Montgomery

is a business facilitator and author of “The Fundamentals of Business Success” and “The Gratitude Shift: A Simple Path to Find More Peace and

Joy.” With nearly 30 years of experience guiding small businesses, Aaron helps people fall back in love with what they do each day. For more visit consultaaron.com.

Print workflow

Step-by-step for quality

By Stephen Romaniello

I think many people have the idea that making a quality print is simply a matter of displaying an image on screen and then clicking the “Print” button. Like magic, a brilliant image is transferred to paper by a large-format printer. Anyone who has operated a high-quality inkjet printer would certainly balk at the misconception that achieving print perfection is easy.

The high-quality print is the final representation of a lot of work. From concept to composition to color correction, each step in the workflow requires a great deal of skill and attention to detail to produce the best results. The amount of time that goes into refining and preparing digital images for print can be substantial. In the final analysis, the output represents the input.

As you probably know, producing quality prints is an expensive

proposition. The cost of the printer and peripheral calibration equipment, software, and the labor for maintenance can be substantial. Basic materials like ink-sets and paper are quite pricey. It is therefore critical to set up a workflow where waste is reduced to a minimum.

This article explains the step-by-step digital graphics workflow from onset to finished product and offers some advice as to how to best manage your images during each part of the process.

Image capture

The graphic workflow begins with acquiring source images. Digital camera photography is obviously the most direct and creative way of capturing images. Preferably images should be shot in RAW format, enabling the camera to collect as much image data as possible. Aside from high-end digital SLR cameras, other means of

photography are commonly in use. Aerial images are captured with drone cameras, a common practice these days, and many images are shot with easily accessible and surprisingly good quality smartphone cameras.

Scanning is a common image capture method for digitizing hard-copy photographs, artwork, or documents. Scan images at least 300ppi at 100% scale to prepare them for high-quality output.

We can’t forget the convenience of stock photography. Images are available for purchase from dozens of stock photography websites such as iStock, Shutterstock, or Adobe. These images are made by professional photographers and usually require little or no color correction or editing. Make sure that the images you purchase are at least 300ppi resolution.

Vector artwork created in programs such as Adobe Illustrator or CorelDRAW should be converted to JPEG or TIFF format before outputting to a printer. Of course we can’t forget AI-generated imagery, available via text prompts to many databases such as Adobe Firefly (integrated into Illustrator and Photoshop), Midjourney, or Google Gemini.

Organize

Once the image is captured, the next step is to organize files to a project folder. This is an important step that is frequently ignored. It guarantees easy access to the files when they are needed. Typical tasks include renaming files so that they are clearly and instantaneously recognized, backing up the originals, adding metadata to imbed images and camera-related data to the image files (**Fig. 1**), sorting to specific project folders, and creating working copies.

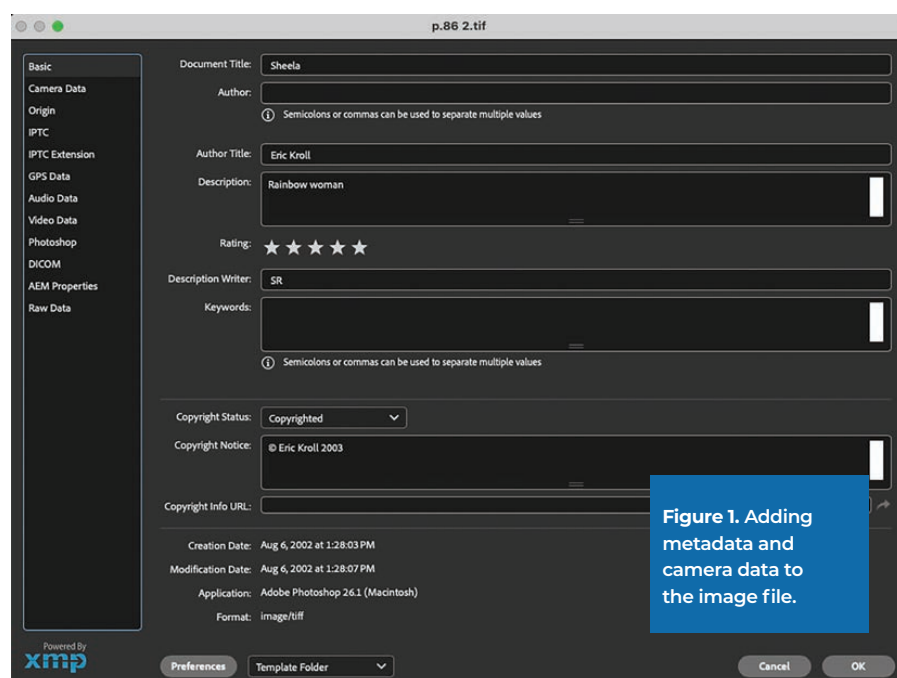


Figure 1. Adding metadata and camera data to the image file.

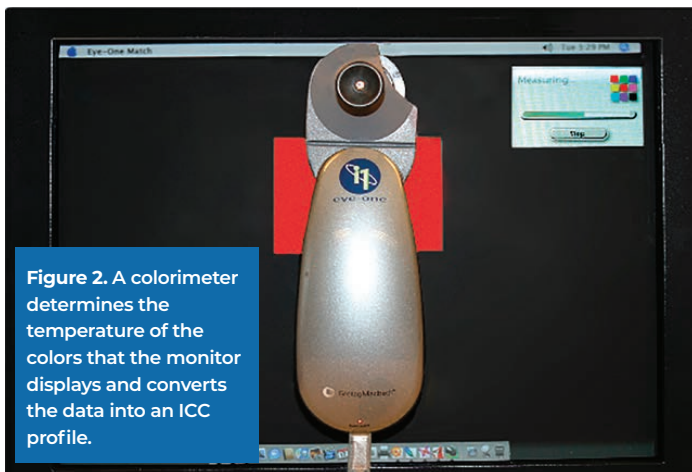


Figure 2. A colorimeter determines the temperature of the colors that the monitor displays and converts the data into an ICC profile.

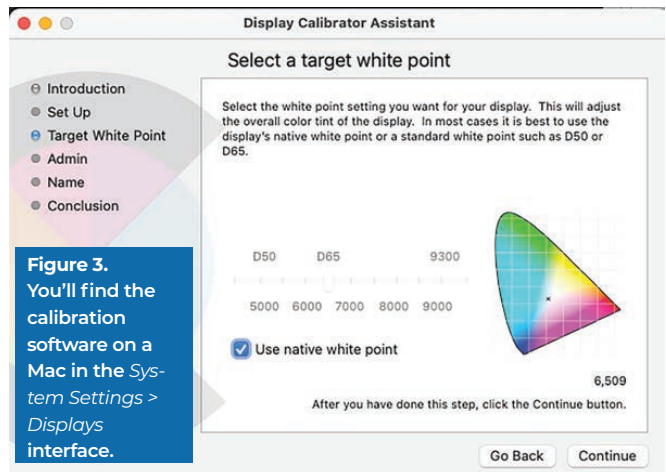


Figure 3. You'll find the calibration software on a Mac in the *System Settings > Displays* interface.

Monitor calibration

Before you begin edits on any image, calibrate your monitor using the calibration software that is bundled with your operating system, third party software, or, best of all, a colorimeter, a device that determines the temperature of the colors that the monitor displays and converts the data into an ICC profile (**Fig. 2**). Monitor calibration adjusts the gamma, brightness, contrast, and color balance of the image the monitor displays. Calibration will provide the best possible onscreen image.

How to calibrate Mac:

1. Assign a Monitor profile to the display. Choose the *Apple menu > System Settings*, then click *Displays* in the sidebar.
2. Click the pop-up menu next to "Color Profile," then scroll down to *Customize*.
3. The color profile for your display and a list of other color profiles appears.
4. Click the plus sign to open *Display Calibrator Assistant*. (**Figure 3**)
5. The *Display Calibrator Assistant* walks you through adjusting your display, then creates a color profile.

The number of adjustments in the calibration process varies depending on the type of display. When the display profile is ready, it's automatically assigned as your monitor's color profile.

How to calibrate Windows:

1. Press *Windows Key+R*.
2. Type *dccw* and press *Enter* to launch the *Display Color Calibration Wizard*.
3. Follow the wizard's prompts.

Image calibration

The image must also be managed for best output. To calibrate the image using calibration software, assign a wide gamut RGB International Color Consortium (ICC) profile such as *Adobe RGB 1998* to the image or use a specific printer/substrate ICC profile that is available from the printer manufacturer. These profiles are loaded into a folder when you load the print driver and are accessible from the *Color Settings* dialog box in Photoshop (**Fig. 4**) or Corel PaintShop Pro. They are made for the specific brand of printer's ink set and the paper surface that you choose. If you are printing to paper other than that produced by the printer's manufacturer, you can frequently load profiles from the paper company's website.

The best solution to accurately create a custom profile for your printer and substrate is to use a hardware device called a *spectrophotometer*. A color

target document consisting of swatches of a full range of colors is printed to the specific substrate and then scanned with the device (**Fig. 5**). The data from the scan is recorded as the ICC profile for the specific printer and substrate.

Image processing

You may see dramatic changes to the image's color when you assign the printer profile. A typical workflow includes adjustments to exposure, white balance, contrast, color correction, lens distortion removal, noise reduction, and sharpening that will correct and enhance various color deficiencies. These color altering processes are usually performed using Adjustment features such as Levels, Curves, Color Balance, Hue Saturation controls and specific filters, or the Camera Raw interface (**Fig. 6**).

Retouching

Before printing, more detailed editing

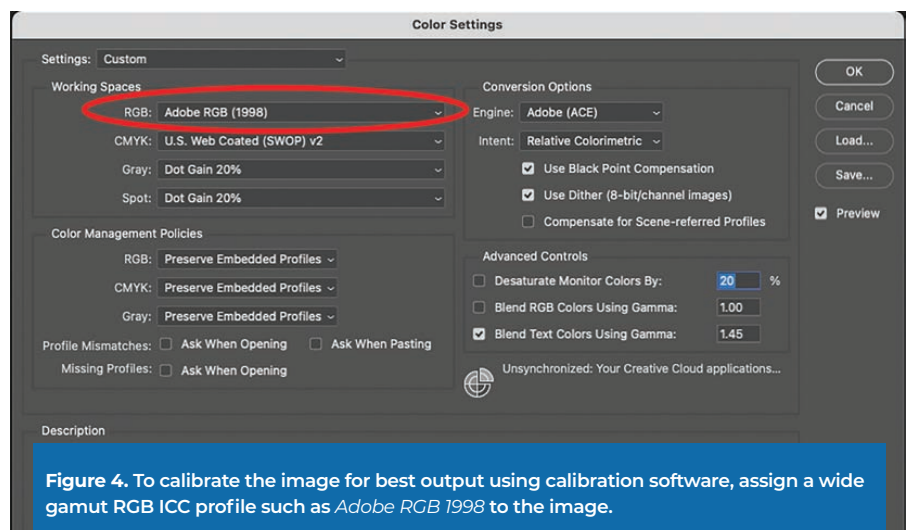


Figure 4. To calibrate the image for best output using calibration software, assign a wide gamut RGB ICC profile such as *Adobe RGB 1998* to the image.



Figure 5. A color target document consisting of swatches of a full range of colors is printed to the specific substrate and then scanned with the device.

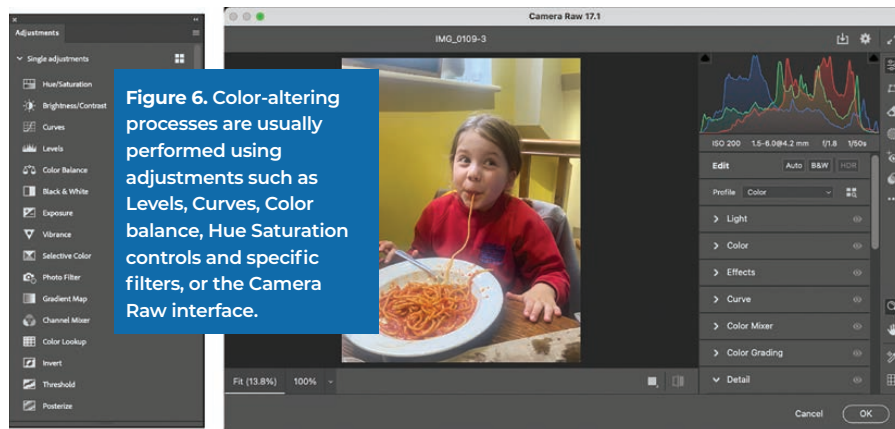


Figure 6. Color-altering processes are usually performed using adjustments such as Levels, Curves, Color balance, Hue Saturation controls and specific filters, or the Camera Raw interface.

is often performed. Some common tasks include the removal of unwanted objects or people, replacing or refining backgrounds, compositing multiple images, skin retouching, repairing damage, and AI-assisted enhancements like colorization or stylistic modifications. These tasks are implemented using specific tools and filters that modify picture content and intuitively match existing areas. Adobe Photoshop and Corel PaintShop Pro are the typical software packages that offer these features.

Layout & design

Sometimes image elements are assembled into a final design like an ad, a poster, a billboard, etc. destined for print output. Elements

including photos, logos, text, colored backgrounds, bleeds, and trim marks are composited in software programs like Adobe Photoshop, Illustrator, InDesign, Corell Draw, or PaintShop Pro. The layout usually relies on the skills of a graphic designer for composition and balance. Once assembled, the artwork is saved to a printable format like JPEG, TIFF, EPS, or PDF or a native format like PSD and is ready for output.

Proof it

Before committing the image to a large format printer, it's advisable to print it to a color laser or desktop color inkjet printer. If it's a large-format image, and your printer can print tabloid size, print the image to an 11" X 17" tabloid

layout. If not, then print it as large as possible. Choose the *Scale to Fit Media* option in the *Print* dialog box to reduce the image to a printable size. Choose either the Portrait or Landscape option depending on the image's proportions.

Scrutinize the laser print carefully. Seeing the image on paper will give you additional perspective than just seeing it on screen and you're likely to observe minor errors in composition and typography. Don't be concerned with color at this stage. The laser print will no doubt distort the colors displayed on your screen. It's simply a proof to examine the physical aspects of the picture. Make any changes that are necessary.

Duplicate & flatten

Duplicate the image and flatten its layers. Flattening the image will reduce the file size and hasten processing when it comes time to make the final print. Do not flatten the original image so that you can make layer specific changes if necessary.

Printing

Turn the printer on and follow the prompts. Usually this can take some time as most large-format inkjet printers go through a cleaning cycle when you start them. Wait for the auto nozzle check to complete. On the printer, choose either roll paper or sheet paper. Printers usually signal when another cleaning cycle or head alignment is necessary. They will also indicate the status of the ink reservoirs. If one is nearly empty the icon of that specific color will blink or display an exclamation point. If it's completely emptied the printer will not operate.

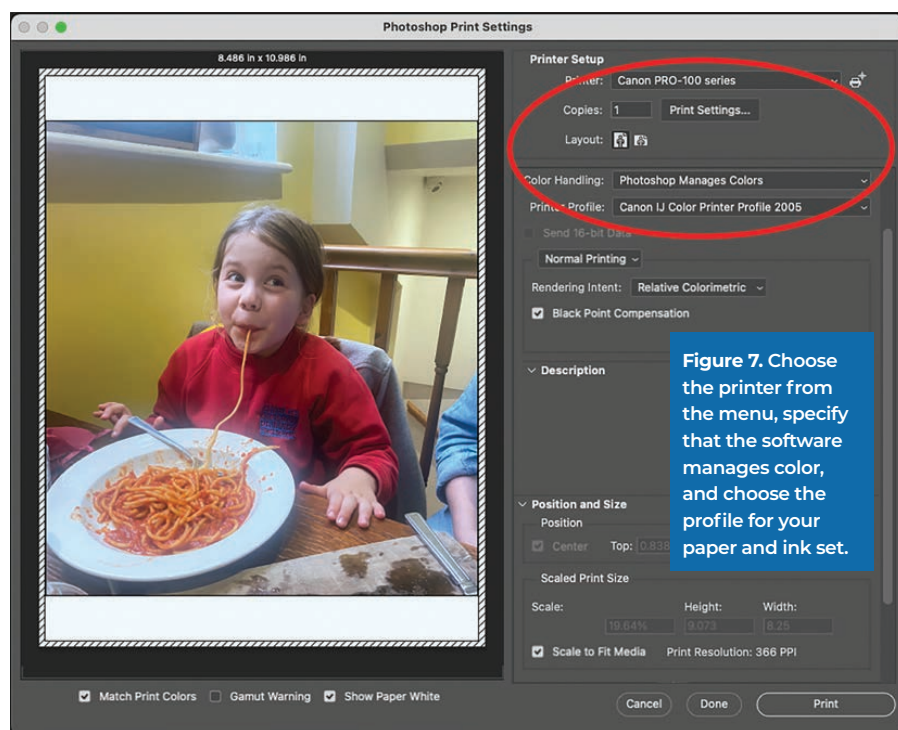


Figure 7. Choose the printer from the menu, specify that the software manages color, and choose the profile for your paper and ink set.

Open the paper tray and make sure that the paper is the correct size and is loaded correctly. Expand any trays that support the final print when it is output by the printer so that it doesn't fall on the floor.

On your workstation choose *File>Print* to display the print dialog box and choose the specific printer from the Printer menu.

Color management

The default print mode is *Printer Manages Color* which usually produces an unmanaged print and relinquishes color control to the print driver. To apply the profile you selected, you'll need to specify that the software *Manages Color*. (Fig. 7) Click the radio button and choose the profile for your paper and ink set.

You can create custom sizes by clicking on the *Manage Custom* size option. This is helpful for printing to roll paper but be sure not to exceed the roll paper's maximum width when you create a custom size.

Finally, click the *Print* radio button.

RIP processing

When printing is initiated, the file enters a raster image processor (RIP) software that converts vectors and text into printable raster data, applies printer ICC profiles, controls ink distribution, generates halftones and color separations, and optimizes print quality (Fig. 8).

Print status

The printer will start making odd noises like buzzes and snaps as it processes the image, but don't worry, it's gearing up to deliver a perfect print the first and every time. Check the status of the print by clicking the Print Monitor icon on your desktop (Fig. 9).

Finishing

After printing, the graphic may undergo post-output procedures including drying and curing (depending on the type of print), lamination, mounting, contour cutting, sewing, grommet installation, or vehicle wrap panel trimming.



Figure 8. When printing is initiated, the file enters a RIP that optimizes print quality.

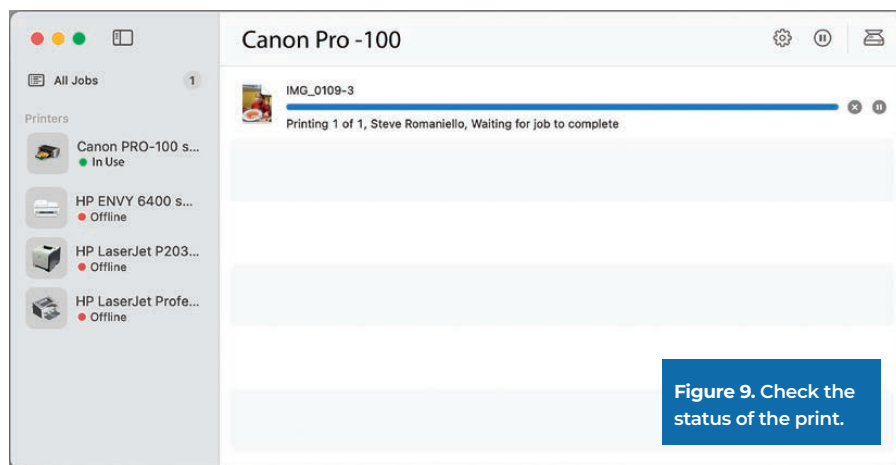


Figure 9. Check the status of the print.

There are certainly numerous commercial uses for large-format prints. The final print may have to be rolled and shipped or mounted to a rigid substrate. It may be installed as signage or a banner or applied as a vehicle graphic. It may be displayed in retail environments or installed as a tradeshow exhibit or appear on the side of a car or bus. Large-format prints are even used as set pieces for theatrical productions.

Control

This step-by-step overview of the professional print workflow from image capture to output and beyond, demonstrates procedures that you can expect to encounter on a daily basis. The controlled environment that produces the best quality prints requires a little extra work. Paying

attention to these details guarantees a savings of time and labor and avoids the cost of wasted materials. The bottom line is that these steps provide a much greater level of control. **GP**



■ Stephen Romaniello

is an artist and educator who has taught graphics software for over thirty years. He is a certified instructor in several graphics and video applica-

tions and the author of numerous books and articles on the creative image manipulation, illustration and media programs. Stephen is the founder and CEO of GlobalEye Systems, a company that offers training and consulting in graphics software. He is also the founder of Fire Boy Productions, an art-book publishing company.

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