# It's a Wild, Wide, Digital World

An examination of the trends and technologies impacting the wide-format industry over the past 15 months.

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Wide-format Impressions

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# INTRO AND TRENDS

**As we start our journey into 2022,** it's hard to believe that this "new normal" is quickly coming up on its two-year anniversary. While business "as usual" has changed dramatically since March 2020, business has continued — and so has R&D.

Over the past 15 months (or so), there have been more than 50 different wide-format printer models released by the inkjet printer manufacturers. Some are completely new devices, while others are refreshes or updates of existing products. Either way, the OEMs have been busy updating their technology, ink, and software systems so PSPs can get the most out of their capital equipment purchases.

There are several trends impacting the wide-format sign and graphics industry, driving an even faster move toward digital.

**CUSTOM EXPRESSION:** Even back at the beginning of 2020, the *New York Times*[1] recognized that customization and personalization for products was a growing trend. From start-ups to big brands, businesses are offering personalized product options to extend their product lines and increase sales. According to the article, "More and more industries and companies are joining the mass-customization bandwagon," many are niche manufacturers and start-ups, unencumbered by expensive legacy factories and supply chains. Others are big brands that added customization options to extend their product lines and increase sales."

Additionally, the *Configurator Database Project* shows how widespread mass-customization has become. It provides links to companies allowing consumers to build individualized products, and the website lists approximately 1,400 companies in 17 industries.

**BOOMING ONLINE SALES:** While consumers shopped online before the pandemic, they were pushed to rely on digital retailers even more during the COVID-19 pandemic, as many physical stores were closed, and people opted to stay indoors as much as possible to slow the spread of the virus.

A *study*[2] by Digital Commerce 360, reported on *Inc.*[3] found that the top 500 companies generated $849.5 billion in online sales in 2020, a 45.3% increase year-over-year, and the biggest jump since Digital Commerce 360 began tracking the statistic in 2006.

According to *Forbes,*[4] The novel coronavirus pandemic gave e-commerce adoption an unprecedented boost, and brought huge sales increases to retailers across the spectrum."

Additionally, according to quarterly figures released by the *U.S. Department of Commerce* in mid-November 2021, Americans spent $214.6 billion online in the second quarter of 2021, a decrease of 3.3% from the second quarter of 2021. Meanwhile, total retail sales for the third quarter of 2021 were estimated at $1,648.6 billion, a decrease of 1.1% from the second quarter of 2021. The third quarter 2021 e-commerce estimate increased 6.6% from the third quarter of 2020, while total retail sales increased 13.1% in the same period. E-commerce sales in the third quarter of 2021 accounted for 13% of total sales.

**SOCIAL MEDIA:** TikTok is mainstream. For many, podcasts are part of daily routines. Instagram is video-first and shopping-oriented. And, wherever possible, consumers opt-out of advertising. This is a new era of democratic media consumption where consumers choose what they listen to, watch, and who they trust.

Brands, searching for quantifiable ROI, are turning to social media influencers — or creators — to reach the desired demographic, no matter how big or how specific. *Business Insider*[5] market report estimates companies will spend up to $15 billion on influencer marketing in 2022.

**ENVIRONMENTAL:** While consumer conversations about the climate have ebbed and flowed for decades, 2020 marked a turning point. *Forrester*[6] research has shown that the prevalence and intensity of values-based consumers have been on the rise; now, the pandemic forced consumers to rethink their priorities when selecting brands and products. Consumers are willing to pay more for environmentally friendly packaging and products.

**"Business Insider5 market report estimates companies will spend up to $15 billion on influencer marketing in 2022."**

A study by research group *Kantar*[7] said that since COVID-19, sustainability was more of a concern for consumers than before the outbreak. And 65% of global respondents told a survey by pollsters *Ipsos Mori*[8], "it is important that climate change is prioritized in the economic recovery after coronavirus."

According to an article in *Forbes*[9], "consumers are hyperaware of the condition of the environment. Forrester data reveals that one-third of U.S. online adults say they spend more time thinking about the climate than they did before the pandemic.

Additionally, more consumers are motivated to act on environmental sustainability. *Forbes* reports, "In direct response to the events of 2020, 36% of U.S. online adults are looking for ways to contribute to local communities, and 31% spend more time thinking about global challenges like poverty or hunger. This mindset sparked bursts of consumer participation in efforts such as *Fridays For Future* climate action protests, and primes 32% of U.S. consumers to

prioritize companies that are actively reducing their impact on the environment."

These days, consumers — especially highly-empowered ones — are the ones who have become brand champions based on ethics and a brand's commitment to environmental issues. "A growing consciousness about the environment paired with an intensifying desire to participate in community causes is rapidly filtering into empowered consumers' buying decisions," reports *Forbes*. "68% of highly empowered consumers plan to step up their efforts to identify brands that reduce environmental impact, 61% seek out energy-efficient labels when making purchases, and 47% regularly buy organic products."

**SUPPLY CHAIN OPTIMIZATION:** According to *Fortune*[10], 94% of Fortune 1000 companies are seeing coronavirus supply chain disruptions. "The interconnectedness of supply chains, whilst proving a blessing in the modern world, was very quickly shown to be a weakness," reports *Fortune*.

However, the issues with the supply chain don't stem from just one thing. The COVID-19 pandemic may have started the issues with the supply chain, but it certainly was not the only thing. Energy shortages in China are limiting the manufacture of materials — both raw and finished. The severe freeze that affected Texas in February 2021 limited oil refining, and thus, plastics and chemical production. A shortage of truck drivers means manufactured materials sit on loading docks or must be shipped by overnight carriers. The general labor shortage means there are not enough people to run the machines that produce the materials graphics producers need. And printing businesses have their own labor challenges, having to address an increasing number of orders with a reduced or inexperienced production team.

Manufacturers — including printers — are looking to bring more efficiency and resiliency to their supply chains.

This is conveyed in the *2021 State of Manufacturing report from Fictiv*[11]. From those manufacturers surveyed in the 6th annual report, 95% say that the pandemic has had long-term effects on their business, and 91% have boosted their digital transformation investments in the past 12 months. In addition, 68% responded that a top business priority is to increase supply chain resilience and agility, with more than 80% moving to use on-demand manufacturing technologies.

Notably, companies are also prioritizing investments in sustainable manufacturing processes to reduce their carbon footprint, possibly to mitigate future environmental risks more proactively.

In the report, Jan Burian, senior director and head of IDC, provided some manufacturing insights. "The show must go on — there's no time for inertia or indecision," says Burian. "Industrial organizations will continue to push forward, relying on operations managers to navigate an environment increasingly complicated by limited supplies, disrupted workforce availability, regulation, and fluctuating demand."

One thing is clear, manufacturers don't want to repeat the disruption of 2020. The Fictiv survey data revealed three key trends around how companies plan to "future-proof" their supply chains. First, many manufacturers are adopting on-demand manufacturing platforms. Benefits cited include increased quality, speed, and production transparency, which aligns well with top business priorities to increase product innovation and agility. Second, certain industries are prioritizing domestic manufacturing to shorten supply chains and prevent future disruption. And third was the prioritization of sustainable manufacturing practices as a business priority.

**DIGITALIZATION AND INDUSTRY 4.0:** Every industry is looking at how they can digitalize their entire workflow to respond more effectively and efficiently to changing consumer demands.

According to a report by *McKinsey*[12], companies are dedicating specialized teams and creating cross-industry networks to drive the development of Industry 4.0. But why is this coming to the forefront now? One reason, according to McKinsey, is because traditional productivity levers have been widely exhausted. In the 1970s and 1980s, it was lean adoption. By the 1990s, it was outsourcing and offshoring that allowed for greater profitability by moving low-skill manufacturing to low-cost countries (LCC). But in the 2000s, the advantages of offshoring began to shrink as LCC wages rose and freight costs increased.

According to McKinsey, "Time to market and customer responsiveness are today's key factors of competitiveness, and companies are investing in automation and robotics technologies that have the potential to meet LCC labor cost levels in any location. Companies are redesigning their manufacturing networks and moving closer to their customers and R&D centers (next-shoring). The pressure on companies continues to increase, and many are looking for new opportunities to boost productivity.

**"68% of highly empowered consumers plan to step up their efforts to identify brands that reduce environmental impact, 61% seek out energy-efficient labels when making purchases, and 47% regularly buy organic products."**

"The disruptive technologies of Industry 4.0, such as IT-enabled manufacturing and increased computing capacity, hold the promise of smart factories that are highly efficient and increasingly data integrated. Data is the core driver: leaders across industries are leveraging data and analytics to achieve a step change in value creation."

According to one McKinsey analysis, a big data/advanced analytics approach can result in a 20% to 25% increase in production volume, and up to a 45% percent reduction in downtime.

# THE TECHNOLOGY

**According to a research report by** *MarketsandMarkets*[13], "Large Format Printer Marke by Offering (Printers, RIP software, Services), Ink Type (Aqueous, Solvent, UV Curable, Latex, Dye Sublimation), Printing Technology, Printing Material, Print Width, Application, and Geography — Global Forecast to 2026," the large-format printer market is projected to grow from $8.8 billion in 2020 to $11.4 billion by 2026. It is expected to grow at a CAGR of 5.4% from 2021 to 2026. Key factors fueling this growth include increasing demand for wide-format printing in the textiles, advertising, and packaging industries; rising adoption of UV curable inks in outdoor advertising, CAD, and technical printing applications; and the growing importance of digital document production. We can also see an increasing demand for digitally-printed home furnishing and décor, as well as for vehicle wrap applications. In-plants are also investing in the technology on a growing scale as demand from their internal "customers" increases.

Even though the COVID-19 pandemic has been impacting everyone since March 2020, as mentioned earlier, printer manufacturers have not slowed down their innovations. There are a variety of wide-format printers boasting a wide range of pricing, which is also creating tremendous growth opportunities for the market.

But what trends and advances have impacted these new models? Let's examine some of the trends we're seeing by ink technology.

## Aqueous, Latex, and Resin

Aqueous-based wide-format printers have been around since the start of wide-format in the 1990s. The technology, though, has come a long way over the past few decades — especially in terms of quality, speed, and ink options.

One of the areas water-based inks shine in is sustainability. Water-based inks are far less harmful in terms of emissions, and they're designed to break down easily during recycling — which is particularly relevant for printing on paper and board. For the display market, print products that can last for long periods of time outdoors without degrading in quality are extremely important, and many of the eco-friendly inks — including water- and latex-based inks — are engineered so this is not a concern.

Some OEMs are also designing their ink cartridges — and in some cases their printers — with sustainability in mind. For example, HP DesignJet Z Pro printers are made of 30% recycled plastic, using more than eight 16.9-oz (0.5-L) bottles worth of ocean-bound plastic, and are fully compatible with large-format FSC-certified papers, a range of recyclable HP media, and a free take-back program for certain HP media.

Portfolios are fully compatible with HP Eco Carton Cartridges, achieving up to 80% reduction in plastic. The outer carton of Eco-Carton cartridges can be disposed of through local cardboard recycling. Additionally, inks for the HP PageWide XL Pro 10000 printer are UL ECOLOGO Certified and verified for Nordic Swan Ecolabel printing companies. This makes HP PageWide XL and DesignJet prints recyclable, returnable, or non-hazardous and safe for disposal.

Fluorescent inks are also now included with several aqueous printers. The Canon imagePROGRAF GP Series released in September 2021 is the world's first aqueous inkjet models to include Fluorescent Pink ink. According to *Canon*[14], its "Radiant Infusion" technology layers the Fluorescent Pink ink with other inks on the paper surface during printing, to create bright and soft color reproduction. The Fluorescent Pink ink can also be used to print in specific areas such as text and objects to enable fluorescent color expression that makes those areas stand out. The user also has the option to print with or without the fluorescent ink completely.

This segment also encompasses the architectural, engineering, and construction (AEC) markets, producing technical and construction documents. The *AIA Consensus Construction Forecast*[15] in July 2021 predicted an increase in nonresidential construction of 4.6%, and an increase in industrial construction of 4.8%. This, however, doesn't immediately translate into more printed documents. Due to the COVID-19 pandemic, many municipalities switched to digital bid submission. For example, in March 2020 the Port Authority of New York/New Jersey transitioned to electronic or digital submissions. The *website* still says, "Also effective March 16, 2020, no Bids or Proposals will be accepted in person at any Port Authority facility. Bids or Proposals will only be received electronically, via email, unless otherwise indicated in the specific solicitation."

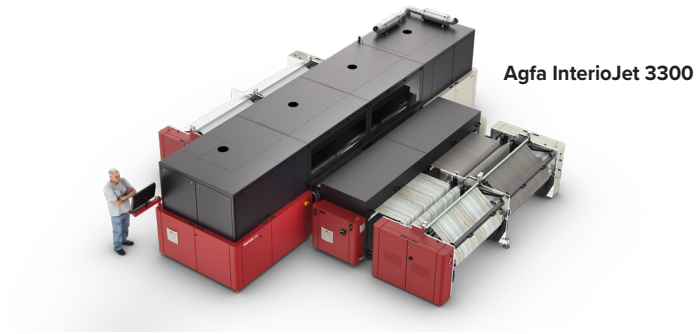
**"The novel coronavirus pandemic gave e-commerce adoption an unprecedented boost, and brought huge sales increases to retailers across the spectrum."**

However, printed plans are only one piece of the AEC puzzle. As the industry ramps up, builders will need more than just building plans. On-site job signage, building signage, and safety signage are still required — and are often still printed.

## AQUEOUS, LATEX, AND RESIN PRINTERS

### AGFA INTERIOJET

The InterioJet 3300 is a multi-pass, water-based inkjet system for printing on décor paper used for interior decoration, such as laminate floors and furniture. It is built on the same inkjet printing platform as Agfa's Jeti Tauro UV-LED printing press for sign and display printing applications. It delivers the same printing reliability, but with printheads, inks, and a drying system tuned to water-based pigment inks. The InterioJet can print on two rolls at a time — each with a width of up to 155 cm, and a weight of up to 600 kg — at a speed of up to 340 sqm per hour.



Agfa InterioJet 3300

### HP DESIGNJET Z9+ PRO

The HP DesignJet Z9+ Pro, which offers the widest color gamut in its category, is the perfect choice for PSPs looking for a professional photo quality printer. Users can customize ICC profiles for their print jobs and achieve desired color accuracy and consistency. PSPs also have the option to include the HP Gloss Enhancer Upgrade Kit to produce superior gloss uniformity.

HP DesignJet Z9+ Pro

### CANON IMAGEPROGRAF GP SERIES

Canon U.S.A.'s imagePROGRAF GP Series aqueous inkjet model includes Fluorescent Pink ink. The imagePROGRAF GP-2000/4000 models have a 10-color pigment-based plus Fluorescent Pink ink set, which includes Green, Orange, Red, Violet, Matte Black, Black, Cyan, Magenta, Yellow, and Gray colors. This ink combination helps expand the range of color reproduction to achieve the largest color gamut in the history of the imagePROGRAF line-up. The GP-2000/4000 models achieve 99% coverage of "Pantone Formula Guide Solid Coated," and 97% coverage of "Pantone Pastels & Neons Guide Coated."


Canon imagePROGRAF GP Series

### CANON IMAGEPROGRAF TZ-30000 SERIES

Canon's new hybrid solutions, the imagePROGRAF TZ-30000 and imagePROGRAF TZ-30000 multifunction printer (MFP) Z36, deliver high-speed printing, as seen through its ability to produce a D-sized print in as fast as 14 seconds, and up to 236 D-sized prints per hour. The integrated Top Output Stacker can stack up to 100 A0-size sheets face-down, providing an added measure of confidentiality. The product's advanced air flow system can also help reduce paper jams while keeping prints neatly in place, and its integrated, compact design can help save office space, allowing printed materials to be easily retrieved from the front of the printer.

## EPSON SURECOLOR T3170M AND SURECOLOR T5170M

Epson's 24" SureColor T3170M and 36" SureColor T5170M multifunction printers tout an integrated high-detail scanner with simple top-loading functionality for easy copy and scanning of blueprints, technical documents, renderings, and graphics. The SureColor T3170M and SureColor T5170M come equipped with an industrial-grade Epson PrecisionCore MicroTFP printhead, producing accurate A1/D-size prints in as fast as 34 seconds and 31 seconds, respectfully. The integrated 600 dpi scanner and copier support enlargements and reductions, as well as enhances tracing and offers highlight detection for scanning annotated blueprints.


Epson SureColor T3170M


Epson SureColor T5170M

HP PageWide XL Pro 10000

## HP PAGEWIDE XL PRO 10000

The compact HP PageWide XL Pro 10000 boosts productivity with printing speeds of up to 700 sq. m. (7,500 sq. ft.) or 1,000 B1 posters per hour, and can print on different size materials, including paper and boards, to cardstock and cutsheets. It also provides PSPs with the capability to deliver quick results with instant-dry prints on compatible substrates. With HP PrintOS, PSPs can control the operations of their fleet anywhere, anytime — while also enjoying simplified maintenance and fast start-up. The HP PageWide XL Pro 10000 also features the first HP large-format auto sheet feeder and stacker, providing seamless end-to-end cut-sheet workflow.

## EPSON SURECOLOR P8570D

The SureColor P-Series model is designed for high-volume photo fulfillment, retail photo labs, poster, and graphic art production. Leveraging Epson's 2.64" PrecisionCore MicroTFP printhead and six-color UltraChrome PRO6 pigment inks, Epson's photographic printer enables higher-speed performance than previous generation models. In addition, the latest model includes several new features that improve workflow and media handling, including dual-roll, built-in take-up reel for roll-to-roll printing, complete front operation, easy automatic roll loading, and optional, adjustable production stackers.

Epson SureColor R5070

## HP PAGEWIDE XL PRO 5200 MFP AND HP PAGEWIDE XL PRO 8200 MFP

The HP PageWide XL Pro 5200 and HP PageWide XL Pro 8200 offer print speeds up to 20 D/A1 pages/min., and 4,300 sq. ft./hr. (400 sq. m./hr.); and 30 D/A1 pages/min., and 5,300 sq. ft./hr. (500 sq. m./hr.) respectively, enabling users to meet short turnaround times. Users can also expand their print applications into two-sided, short-term retail posters, which can be managed with HP SmartStream.

HP PageWide XL Pro 5200

HP PageWide XL Pro 8200

## EPSON SURECOLOR T7770D

Developed from the ground up, the all new SureColor T-Series model includes Epson's 2.64" PrecisionCore printhead. The compact industrial design provides a small footprint for space-constrained production environments. The latest model also incorporates several new features that improve usability and streamline workflow and media handling, including Adobe Embedded Print Engine standard, dual-roll capability, a built-in take-up reel for roll-to-roll printing, complete front operation, easy automatic roll loading, and optional, foldable production stackers. The SureColor T7770D prints posters and POP displays at speeds over 300 sq. ft./hr. and CAD and technical drawings at production-class speeds over 1,400 sq. ft./hr.

Epson SureColor T7770D

Epson SureColor R5070

Epson SureColor R5070L

## EPSON SURECOLOR R5070 AND R5070L

Epson's 64" SureColor R5070 and SureColor R5070L roll-to-roll signage printers with water-based resin ink offer low ink costs. The printers leverage six-color UltraChrome RS Resin ink to produce high-quality prints and color consistency for repeat jobs, brand colors, wall tiling applications, and more. Both printers include the new Epson Edge Print enterprise workflow software for tracking jobs, managing variable data, and streamlining workflow integration. Access to the Epson Edge Dashboard provides users with remote oversite and control of their Epson printer fleet.

## HP DESIGNJET Z6 PRO

Thanks to the chromatic RGB HP Vivid Photo Inks, HP DesignJet Z Pro users can now achieve 93% Pantone coverage — 26% more gamut compared to the previous generation — and produce prints with the image quality of a 12-ink printer with just nine inks. Additional features — such as the High-Definition Nozzle Architecture (HDNA) printheads and dual drop technology, which reduces visible grain and eliminates the need for light colored inks — promise prints with clear details and dazzling-contrasts.

HP DesignJet Z6 Pro

## Textiles: Direct Print and Dye-Sublimation

The soft signage market is experiencing enormous growth rates in all areas of application — from visual communication and décor, to textile clothing. In March 2021, *Grand View Research*[16] estimated the global textile printing market size was USD $1,000.3 billion in 2020, and is expected to expand at a compound annual growth rate (CAGR) of 4.4% from 2021 to 2028. Increasing demand for apparel from the fashion industry coupled with the growth of *e-commerce* platforms[17] is expected to drive the market over the forecast period.

In another report, this market produced more than "1.4 billion sq. m. in digital print volume in 2019, and is growing at a 15% CAGR" based on the from *Keypoint Intelligence*[18] *Digital Textile Forecast 2017-2022*. This market consists of soft signage, garments, and décor applications.

The global textile printing machine market is expected to reach $10.22 billion by 2023, growing at a CAGR of 5% from 2017 to 2023, according to an *Allied Market Research*[19] *study*.

Several trends can be pinpointed for this continued growth, which speak in favor of the soft signage market. These include environmental friendliness by using water-based, odorless inks. The digital textile printer segment, partly due to the efficiency and sustainability benefits of the equipment, is expected to experience the fastest CAGR of 9.7% during this period, according to the Allied Market Research report. The increasing consumer preference toward sustainable products is forcing many textile companies to focus on restructuring their business, and investing in manufacturing practices that target sustainable products.

Additionally, textile and apparel customer needs and requirements have changed. In line with the broader custom expression trend noted above, the inventory of mass-produced products has decreased in favor of just-in-time production runs of more personalized goods. Additionally, customers are increasingly requesting shorter lead times, which require a greater agility to produce goods quickly and efficiently, regardless of production run size. And as demand for domestically made products continues to surge — thanks to supply chain challenges — it is more important than ever for textile and apparel print shops to fulfill large, custom orders in shorter lead times.

There has also been an increasing trend of smart textiles in the market that use optical fibers, metals, and various conductive polymers to interact with the environment, according to *Grand View Research*. These help in detecting and reacting to various physical stimuli such as mechanical, thermal, or chemical and electric sources. This is expected to propel the growth of the technical application segment of the market.

Over the past 15 months, there have been a variety of textile and soft signage printers introduced into the market. There has been an increase in machine flexibility — enabling users to either print directly to fabric or to transfer printing for dye-sublimation.

Interestingly, two models (the Durst P5 TEX iSUB and the EFI FabriVu 340i+) both feature in-line sublimation/fixation. This feature eliminates individual work steps, resulting in a significant increase in quality and efficiency for the user.

Interestingly, fluorescent inks have also started to enter the textile market — especially for apparel markets. The Epson SureColor F10070H includes Fluorescent Pink and Fluorescent Yellow as ink options, enabling shops to deliver bright and vivid customized apparel, décor, and novelty goods.

## TEXTILE PRINTERS — 60-77" (UP TO 1.9M)

### MIMAKI TS100-1600 SUBLIMATION TRANSFER INKJET PRINTER

The TS100-1600 is a 63.8"-wide entry-level, high-performance sublimation printer with print speeds up to 753 sq. ft./hr. The printer ships with RasterLink7 and is supported by TxLink4. Also, the TS100-1600 comes with the recently introduced Dot Adjustment System (DAS) feature, which offers automatic alignments to ensure consistent quality and repeatability.


Mimaki TS100-1600

### CANON SOLUTIONS AMERICA MS IMPRES 4180 SOFT SIGNAGE DYE-SUBLIMATION PRINTER

The MS Impres hybrid dye-sublimation printers provide PSPs with the option to print solely transfer printing or a combination of transfer and direct-to-fabric. The MS Impres 4180 prints up to 64" wide with four Kyocera 300 dpi printheads in a four-color ink configuration, and can print at speeds up to 3,120 sq. ft./hr. The MS Impres 4180 EVO expands the capabilities of the 4180 with eight 600 dpi printheads and higher print speeds up to 3,354 sq. ft./hr.

## EFI FABRIVU 180+

The EFI FabriVu 180+ is a 1.8m soft signage printer, based on the current EFI FabriVu models. These plus models feature N°8 Kyocera printheads (KJ4B-QA0), updated firmware, and a heating platen that ensures better temperature uniformity and better outgassing. It can print both to transfer paper or direct to fabric.

**EFI FabriVu 180+**

## EFI REGGIANI TERRA SILVER ENHANCEMENT

EFI released an enhanced version of the EFI Reggiani TERRA Silver printer, a 1.8-meter-wide printer operating with EFI Reggiani's TERRA pigment ink, with binder solution for direct-to-textile printing without steaming or washing.


**EFI Reggiani Terra Silver**

## EFI REGGIANI BLAZE TEXTILE DIGITAL PRINTER

The industrial, entry-level EFI Reggiani BLAZE scanning printer from Electronics For Imaging is designed to give textile companies the opportunity to enter the digital textile printing market with a compact solution. The 1.8m-wide printer offers a continuous recirculation ink system equipped with a level sensor and degassing as well as a printhead crash protective system for longer printhead life and superior uptime. It can produce up to 125 linear mph with a printing resolution up to 600x1,200 dpi.

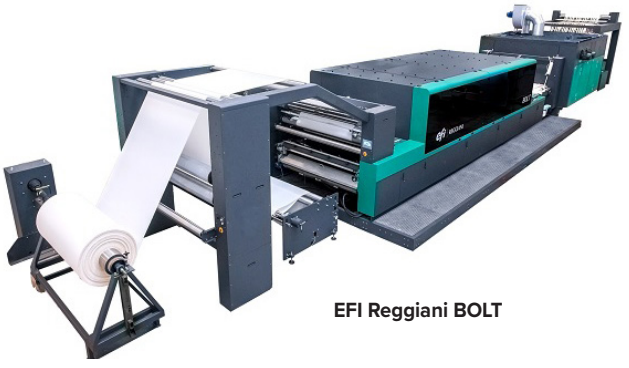
## MIMAKI TIGER-1800B MK III TEXTILE INKJET PRINTER

The 72.4"-wide Tiger-1800B Mk III is a high-speed textile production model featuring the Mimaki Printer Controller (MPC). It is equipped with a variety of features, including Nozzle Recovery System (NRS), and Mimaki Advanced Pass System 4 (MAPS4) to ensure consistent, stable, and high-quality printing. The Tiger-1800B Mk III combines high productivity with a maximum print speed of 4,144 sq. ft./hr., and long operating stability.

**Mimaki Tiger-1800B Mk III**

## EFI REGGIANI BOLT

Electronics For Imaging enhanced the 70.8" (1.8m) EFI Reggiani BOLT with a combination of hardware and software enhancements that will minimize artifacts, compensating for missing nozzles that may occur over time, and enhancing uniformity to deliver smoother solid colors. The upgrade also delivers improved quality and smoother gradients, plus it enables faster printhead replacement and drastically increases file processing speed by up to 200% for large, complex files.



**EFI Reggiani BOLT**

## MOSAICA GROUP PANTHERA JR DIGITAL DYE-SUBLIMATION PRINTING SYSTEM

The Panthera JR is an industrial 1.9m digital printer for dye-sublimation. It is designed to be a more affordable version of the original Panthera S4-1.8m and 3.2m models. Panthera S4 printing systems are known for consistency and high-quality printing with 2 x CMYK ink configuration. The optional 8-color ink configuration provides even sharper images, more vibrant colors, and richer and deeper blacks.

**Mosaica Panthera JR**

## DURST P5 TEX ISUB

Durst developed the P5 TEX iSUB, based on the P5 platform, with a maximum print width of 3.3m. At the heart of the Durst P5 TEX iSUB is the integrated in-line fusing for direct printing on polyester fabrics. The P5 TEX iSUB is not limited to direct printing; transfer papers can also be printed and further processed in the usual way. The maximum print speed is 383 sq. m./hr. when the 330cm print format is fully utilized. Access to two rolls via the Multiroll option makes changing materials much easier in practice. In addition, the Dualroll option allows two rolls with a width of 1.6m to be printed. Another feature of the Durst P5 TEX is the integrated finishing unit, which can be used to sew and stitch media.


**Durst P5 TEX iSUB**

## EPSON SURECOLOR F10070H

The Epson industrial-level SureColor F10070H dye-sublimation 76" wide-format printer offers multiple ink configurations, including Light Cyan and Light Magenta, or Fluorescent Pink and Fluorescent Yellow, enabling shops to deliver bright and vivid customized apparel, décor, and novelty goods just in time. With six user-replaceable 4.7" PrecisionCore printheads and UltraChrome DS6 ink technology, the SureColor F10070H delivers industrial-level, roll-to-roll performance at speeds up to 2,635 sq. ft./hr.


**Epson SureColor F10070H**

## EFI REGGIANI HYPER

The EFI Reggiani HYPER is a scanning printer available in 1.8m, 2.4m, or 3.4m widths. With an up to eight-color configuration, the EFI Reggiani HYPERprints at up to 13 linear mpm in two-pass production model. The printer is suitable for high-quality production on knitted or woven fabrics.


**EFI Reggiani HYPER**

### CANON SOLUTIONS AMERICA MS IMPRES 4320 SOFT SIGNAGE DYE-SUBLIMATION PRINTER

The MS Impres hybrid dye-sublimation printers provide PSPs with the option to print solely transfer printing or a combination of transfer and direct-to-fabric. The MS Impres 4320 model handles media up to 126" in width, and operates with four Kyocera 300 dpi printheads running at print speeds up to 4,632 sq. ft./hr. The MS Impres 4320 EVO includes the expanded eight 600 dpi printheads, and print speeds up to 4,952 sq. ft./hr.


**Canon Solutions America MS Impres 4320**

### EFI FABRIVU 340+ AND FABRIVU 340I+

The EFI FabriVu 340+ and FabriVu 340i+ models are 133" soft signage printers, based on the current EFI FabriVu models. These plus models feature N°8 Kyocera printheads (KJ4B-QA0), updated firmware, and a heating platen, which ensures better temperature uniformity and better outgassing. It can print both to transfer paper or direct-to-fabric. The FabriVu 340i+ model includes an in-line fixation unit as well.


**EFI FabriVU 340i+**

### AGFA AVINCI CX3200 PRINTER

The Avinci CX3200 is a dye-sublimation roll-to-roll printer that can print either directly to textile or on transfer paper. It delivers high productivity and a consistently vibrant print quality on a wide range of polyester-based fabrics. The print engine enables sign printing companies to create textile prints of up to 3.2m wide at a production speed of up to 270 sq. m./hr.

**Agfa Avinci CX3200**

## UV/UV-LED/UV Gel

UV printing technology development has been continuing at a fast pace over the past decade. This technology is unique in that it supports a variety of formats, from roll-to-roll and hybrid models to purpose-built flatbed presses. The biggest advantage of these types of printers lies in the application versatility. These printers offer PSPs and manufacturers the best of both worlds — direct-to-product customization, plus direct printing on flexible and rigid materials that allows for an extensive range of merchandising, packaging, sign, and display application opportunities.

UV printing also delivers vibrant colors, and nearly any surface can be used as a substrate since the UV ink sits on top of the surface. This certainly allows for the growth of unique applications. UV print is also scratch resistant and more strongly stands up to wear and tear and sun exposure than other more traditional printing methods — like aqueous printing. There is also a cost savings in terms of time since the print is instantly dry as soon as it comes off the press and it can be finished immediately.

On the subject of sustainability, UV ink has also been designated an eco-friendlier ink, and the prints are virtually odorless — which means that no special ventilation is required.

Additionally, UV-LED printers offer several sustainable advantages. The UV-LEDs provide users with decreased power consumption, no bulb replacements, and less material waste. The UV-LED technology also eliminates the need for high-power lamps to ensure proper image adhesion and additional heat to evaporate water from printed images.

Special, eye-catching inks — neon and fluorescent — also extend into this market. Printers like the new Karibu S from swissQprint include neon inks — pink, yellow, green, and orange — enabling the printer to create eye-catching signage and event applications.

## UV, UV-LED, UV GEL ROLL-TO-ROLL PRINTERS

### ROLAND DGA VERSAUV LEC2-640 AND LEC2-330 UV PRINTER/CUTTERS

The VersaUV LEC2-640/330 models expand Roland DG's existing VersaUV product line. The 64" VersaUV LEC2-640 and 30" LEC2-330 comes with the GREENGUARD Gold certified EUV5 ink available in CMYK, Clear, White, and Primer. The printer/cutters boast advanced printhead technology for precision dot placement and control, as well as larger, more powerful LED lamps that allow for higher print quality, improved color saturation, and faster ink curing. An optional TB-30 Tension Bar, available for the LEC2-330, enables direct printing on film as thin as 30 microns for flexible packaging. There's also an optional ET-30 Extension Table for the LEC2-330 that makes it easy to print on a variety of paper stocks and aluminum metalized papers for folding carton packaging jobs, including design comps, prototyping, color proofing for food, beverage, cosmetics, pharmaceuticals, and more.

**Roland DGA VersaUV LEC2-640**

### CANON COLORADO 1630 UVGEL ROLL-TO-ROLL PRINTER

The Colorado 1630 from Canon is an industrial-grade printer that delivers print quality of 1,800 dpi, as well as highly durable, odorless, and instantly dry prints on almost any media. In its fastest print mode, for applications such as outdoor banners and billboards, the Colorado 1630 can attain a maximum print speed of 1,195 sq. ft./hr. The base model can be configured according to each user's business needs by adding modular options such as FLXfinish, a second media roll, and easy double-sided printing.

**Canon Colorado 1630**

### MIMAKI UJV100-160

With two newly developed heads, the UJV100-160 from Mimaki has pursued high quality, high productivity, and stable operation as a UV-curable inkjet printer. In addition to NCU (Nozzle Check Unit), NRS (Nozzle Recovery System), and MAPS4 (Mimaki Advanced Pass System4), which enable stable high-quality printing, the DAS (Dot Adjustment System) was incorporated into the new "100 series" printers. Dot position and feed correction, which used to take a lot of time and effort to do manually, can now be done automatically, reducing the operator's workload.


**Mimaki UJV100-160**

### MUTOH VJ-1638UR MARK II

The Mutoh ValueJet 1638UR Mark II UV-LED printer is suited to produce high-quality graphics. It is powered by MUTOH's VerteLith RIP software, bundled with FlexiDESIGNER MUTOH Edition 21. VerteLith RIP optimizes the capabilities the VJ-1638UR Mark II has to offer, and produces the best-possible gradients, skin tones, and vivid colors. Features of the ValueJet 1638UR Mark II include staggered dual printheads with UV-LED lamps on both sides for greater productivity, multi-layer print capability, and UV-LED ink that cures instantly — no outgassing needed. MUTOH flexible type US11 ink is ideal for applications using roll media. White and Varnish inks enable printing on transparent media and colored materials.

**MUTOH VJ-1638UR Mark II**

## EFI VUTEK Q3R UV-LED PRINTER

The EFI VUTEk Q3r is designed to go beyond printing to provide a complete print to finished graphic workflow — from RIP to finished product — on the same platform. The printer can produce a wide range of applications thanks to White and Clear ink, double-sided printing, textiles, and more. Continuous printing with minimal supervision is also possible with multiple media handling solutions for large and heavy rolls. A unique set of optional power tools automate processes, minimize waste, offer better usability, expand applications offering, and increase profitability. The automatic in-line print quality monitoring can identify various print imperfections and alert the operator.

**EFI VUTEk Q3r**

## SWISSQPRINT KARIBU S

swissQprint's Karibu S is the speed version of its Karibu UV roll-to-roll printer. Created for print service providers who run multiple shifts to produce large volumes of items, the Karibu S features an output of up to 330 sq. m./hr. The printer includes an optimized ink that has a broad adhesion profile and is very flexible. The printer can also handle automatic double-sided printing. Thanks to a camera system and QR codes, the process takes place automatically.

**swissQprint Karibu S**

## FUJIFILM ACUITY ULTRA R2 SUPERWIDE-FORMAT PRINTER

The Acuity Ultra R2 from FUJIFILM North America Corp., Graphic Systems Division, is available in 3.2m and 5m versions. The enclosed design eliminates stray UV light, removing the need for a light curtain. It also features larger ink tanks to ensure all the ink from a standard can is used when refilling. Maintenance-free ink pumps have also been integrated to increase up-time, and a print viewing window allows the operator to check on the progress of a job without leaving the workstation. The R2 is available in various color configurations up to eight channels. The Acuity Ultra R2 uses LED lamps for the six-color (CMYKLcLm) and six-color with white (CMYKLcLm+WW) printer configurations, or UV lamps for the high-speed double CMYK configuration.

**Fujifilm Acuity Ultra R2**

## EFI VUTEK Q3R AND Q5R ROLL-TO-ROLL PRINTERS

The 198"-wide EFI VUTEk Q5r printer runs at speeds up to 7,233 sq. ft./hr. (672 sq. m./hr.), and the 138"-wide VUTEk Q3r model prints up to 6,006 sq. ft./hr. (558 sq. m./hr.). The printers feature up to nine ink colors (standard CMYK and optional Lc, Lm, Lk, White, and Clear coat), enabling exact customization of each printer to users' needs and strategies. They also include EFI UltraDrop Technology, featuring native seven-picoliter printheads with multi-drop addressability for high-definition image quality.

**EFI VUTEk Q5r**

## UV, UV-LED, UV GEL HYBRID PRINTERS

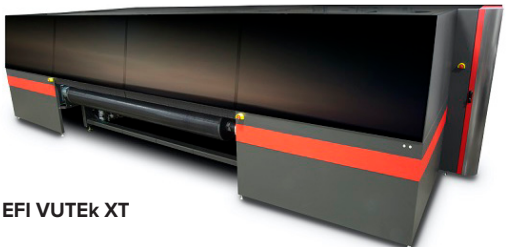
### MUTOH VJ-1638UH/VJ-1638UR MARK II PRINTERS

The Mutoh VJ-1638UH Mark II is a hybrid printer with the ability to print on rigid substrates as well as roll media, while the VJ-1638UR Mark II prints on roll media only. A 66lb take-up system is standard on the VJ-1638UR Mark II: The 66lb and 88lb take-up systems are optional. The VJ-1638UH Mark II 66lb, 88lb, and 220lb take-up systems are all options on this printer model. VerteLith RIP software optimizes the performance of the printers and features i-WeaveUVEX 2 Intelligent Interweave Print Technology, Mutoh Clear Tone half tone technology, Mutoh CYMK wide color gamut ICC profile, and auto-generation of Pantone coated/uncoated spot colors.

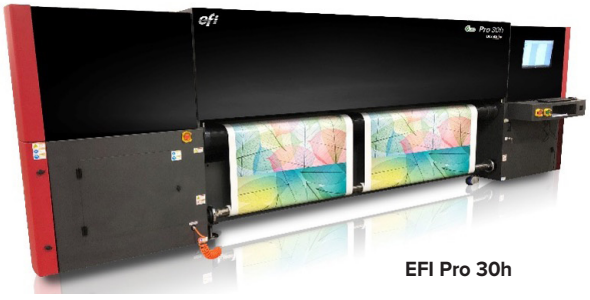
**MUTOH VJ-1638UH Mark II**

### EFI VUTEK XT HYBRID PRINTER

The EFI VUTEk XT hybrid flatbed/roll-to-roll display graphics printer prints more than 375 boards per hour — nearly twice the throughput of the VUTEk HS125 F4 printer. The printer includes a new media transport that eliminates the need for material edge guides, ensuring highly accurate registration and smooth transport of even thick boards. The printer's vacuum belt and vacuum table ably handle a wide range of materials. The XT model's CP5G ink system delivers complete ink circulation, superior dot placement, five-picoliter drops, and grayscale imaging.



**EFI VUTEk XT**



**EFI Pro 30h**

### EFI PRO 30H HYBRID PRINTING SOLUTION

The 3.2m EFI Pro 30h hybrid flatbed/roll-fed LED entry-level production printer prints on a wide variety of substrates for a wide variety of applications. It is ideal for commercial printers, sign shops, and in-plant printers looking to start, upgrade, or add board and roll-to-roll print jobs to their wide-format capabilities. This CMYK printer comes standard with two channels of white. It features UltraDrop Technology 7pL printheads with grayscale printing up to 1,200 dpi, and a magnetic linear drive for better drop placement, resulting in a greater color gamut.

### AGFA JETI TAURO H3300 S LED

The Jeti Tauro H3300 LED S is an entry-level hybrid six-color printer, with optional white and primer. It boasts a top speed of 302 sq. m./hr., which can be upgraded to even higher speeds. It is available in six possible configurations. Four of these are dedicated to board printing, ranging from manual to fully automatic. The 3/4 automated version makes use of an automatic board feeder, which is particularly convenient for shorter runs and a fast, efficient changeover between various media sizes or types. The two remaining configurations focus on roll printing, with a master roll-to-roll and a light roll-to-roll model.


**Agfa Jeti Tauro H3300 S LED**

### AGFA JETI TAURO H3300 UHS LED INKJET PRINTER

The Jeti Tauro H3300 UHS LED from Agfa prints media up to 3.3m wide in four or six colors at a speed up to 600 sq. m./hr. The master roll-to-roll configuration can handle both single- and dual-roll printing and features an optional camera for accurate double-sided printing of block-out media. The printer also uses Agfa's GREENGUARD Gold certified Anuvia UV-LED inks, characterized by a wide color gamut and high color vibrancy.

**Agfa Jeti Tauro H3300 UHS LED**

### DURST P5 350 HIGH-SPEED PRINTING SYSTEM

Durst's P5 350 high-speed printer can print at more than 600 sq. m./hr. Additionally — thanks to the same features that made the P5 350 successful, such as the multiroll and the multitrack 6 option — this model retains the level of high versatility. It can be configured with up to nine color channels including light colors and White, and varnish for special multilayer printing applications such as "Day&Night," "In&Out," and up to 12 layers hapt-printing. Durst Automat, the fully automated board feeding and stacking system, can manage up to two lanes, also with different board sizes up to 3.5m width (137.8") and 2.2m (86.6") length, and has a loading capacity of 90cm (35.5"). Thanks to its sliding registration tables, a comfortable access to the roll tool enables a fast material change operated by a single operator.

**Durst P5 350**

## UV, UV-LED, UV GEL FLATBED PRINTERS

### MIMAKI UJF-MKII E SERIES

The Mimaki UJF-MkII e Series models include the UJF-3042 MkII e, UJF-3042 MkII Ex e, and the UJF-6042 MkII e. All the models include the Mimaki Fine Diffusion (MFD2) core technology for half-toning that processes and controls the placement of ink dots. The following technologies are also incorporated: Nozzle Check Unit (NCU), Nozzle Recovery System (NRS), and Mimaki Advanced Pass Systems 4 (MAPS4). The printing area of the UJF-3042 MkII e and UJF-3042 MkII Ex e measures 16.5x11.8" (420x300mm); and the UJF-6042 MkII e measures 16.5x24" (420x610mm).


**Mimaki UJF-3042 MkII e**

### MIMAKI UJF-7151 PLUS II

Mimaki's UJF-7151 plus II model incorporates eight printheads and includes eight ink slots, which can be configured for a four-color setup or up to eight inks including light color inks (Light Cyan and Light Magenta), White, Clear, and Primer. It can print up to 1,800 dpi. The strengthened structure of the printer body and enhancements to the print table reduces shaking during printing, allowing precise positioning of ink droplets. Load capacity has been increased from 22lbs to 66lbs (10 to 30 kg), allowing users to print on heavier metal jigs and other equipment, while maintaining accurate positioning.

**Mimaki UJF-7151 plus II**

## ROLAND DGA VERSAUV LEC2 S-SERIES UV FLATBED PRINTERS

Roland DGA's VersaUV LEC2 S-Series printers are available in two flatbed sizes (64" and 30" widths). In addition, Roland DG offers two different carriage sizes and four different bed sizes to choose from, including a full-sized model that prints on full boards. All LEC2 S-Series printers boast up to 7.87" of height clearance, and are sturdy enough to support up to 2,373 lbs. A True Rich Color preset within the bundled VersaWorks 6 RIP software works with the Orange and Red ECO-UV 5 ink options to widen the color gamut. With these process colors, specific Pantone and DIC colors can now be achieved, making the reproduction of specific company brand colors easier than ever.

Roland DGA VersaUV LEC2-640S

## EPSON SURECOLOR V7000 10-COLOR UV FLATBED PRINTER

Epson's 4x8-ft. SureColor V7000 is capable of printing on a variety of rigid substrates up to 3" thick. Featuring 10-color UltraChrome UV Ink, including vivid Red Ink, Gray, opaque White Ink, and varnish, the SureColor V7000 can produce color or three-layer prints with little difference in production speeds by leveraging eight MicroPiezo printheads. The printhead also includes a new circulation system for White ink to limit sedimentation and preserve printhead nozzle integrity.


Epson SureColor V7000

## DIRECT COLOR SYSTEMS UV-84DTS

The Direct Color Systems' UV-84DTS is a 4x8-ft. (120x243cm) UV-LED printer. It features industrial Ricoh printheads, variable drop grayscale technology, and resolutions up to 1,200dpi. Combine those items with an all-new Color Byte 11 software solution, integrated vacuum table, and a 1.5L bulk ink system, and operators can reliably print job after job.

Direct Color Systems UV-84DTS

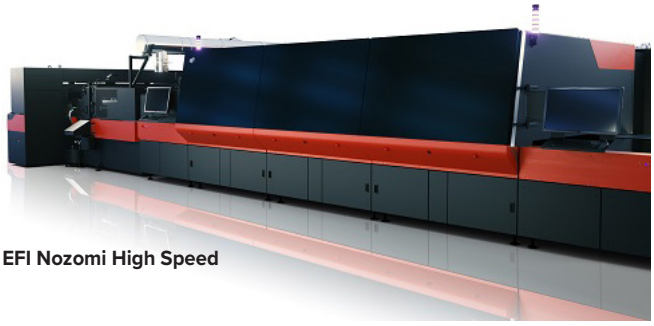
## CANON ARIZONA 135 GT UV FLATBED PRINTER

Canon U.S.A.'s Arizona 135 GT UV flatbed printer is designed for application versatility and exceptional image quality due to its VariaDot grayscale printing technology, which uses advanced drop size selection techniques to deliver photo-realistic images. With the ability to handle substrates of up to 49.2x98.4" (125x250 cm) in size and up to 2" (50.8mm) thick, and to print at speeds of up to 368 sq. ft./hr. (34.2 sq. m./hr.), the Arizona 135 GT can produce 20,000 sq. ft. (~2,000 sq. m.) per year.

Canon Arizona 135 GT UV

### EFI SINGLE-PASS FOR DISPLAY GRAPHICS PRINTER

EFI's single-pass for display graphics printer features a 63"-wide single-pass solution that can print on synthetic media and paper-based materials at speeds up to 1,000 sheets or boards per hour. A future upgrade for the printer will also allow for conversion to roll-to-roll production. The seven-color printer delivers a wide color gamut with six colors: CMYK with optional Orange and Violet inks, plus White.

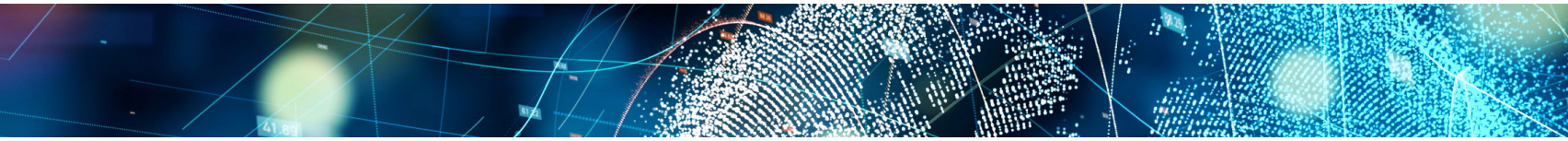


EFI Nozomi High Speed

### MIMAKI JFX600-2513 UV FLATBED PRESS

The Mimaki JFX600-2513 is a successor model of the JFX500-2131. Equipped with drastically increased number of printheads, the JFX600-2513 enable highly efficient printing, and can improve productivity by approximately 300% compared to the JFX500-2131. In addition, the number of colors that can be installed has been increased from four colors to six colors. The maximum printable size is 2,500x1,300mm, with a thickness of up to 60mm, and supports 4×8' boards (1,220x2,440mm). Printing on a variety of media such as resin, glass, and metal, not to mention large sign boards, is possible. The printer is capable of 2.5D printing (Emboss print), which creates an uneven surface by printing with multiple layers of UV ink, offering high value-added printing applications.

Mimaki JFX600-2513



## Solvent and Eco-Solvent

Out of all the ink technologies on the market today, solvent (hard-solvent) probably has the most difficulty in getting traction. While solvent printing has been around for years — printers are installed, PSPs are familiar with them, and they produce high-quality prints — these days, more and more companies are looking to improve the impact their business has on the environment — not just in terms of printing, but also the disposal of used prints. This shift accounts for why many PSPs are moving away from solvent to more eco-friendly practices.

These printers are still ideal for certain applications — especially out-of-home applications. This ink choice is ideal for many forms of signage including billboards, vehicle wraps and graphics, wall graphics, backlit signage, and die-cut labels and decals. It is a popular choice because of its ability to adhere to both uncoated and coated surfaces.

Many eco-conscious PSPs looking for outdoor durability have moved toward safer and more environmentally-sound low-solvent and eco-solvent inks. Many wide-format print providers still use either eco-solvent or solvent printer and ink technology.

## SOLVENT AND ECO-SOLVENT PRINTERS

### MIMAKI JV100-160

With two newly developed heads, the JV100-160 from Mimaki pursued high quality, high productivity, and stable operation as an eco-solvent inkjet printer. In addition to NCU (Nozzle Check Unit), NRS (Nozzle Recovery System), and MAPS4 (Mimaki Advanced Pass System4) that enable stable and high-quality printing, DAS (Dot Adjustment System) is also provided to new "100 series" printers. Dot position correction and feed amount correction, which used to be manual operations and require time and effort, can be automated, reducing the workload on the operator.

Mimaki JV100-160

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# WHO WE ARE

## Wide-format Impressions

*Wide-format Impressions* serves as a resource for senior-level executives, business owners, and managers of printing and signage companies providing wide-format services. It covers industry trends, emerging technologies and news in the visual communications industry.

## NAPCOMEDIA

NAPCO Media, *Printing Impressions'* parent company, is a leading B-to-B media company specializing in creating community through content via integrated media programs, video services, marketing services, events and event management, custom content, eLearning and market research. NAPCO Media has rapidly expanded its portfolio to include NAPCO Video Services, NAPCO Events, NAPCO Marketing Services and NAPCO Research.

## PRINTING UNITED ALLIANCE

PRINTING United Alliance is the most comprehensive member-based printing and graphic arts association in the United States, comprised of the vast communities which it represents. The Alliance serves industry professionals across market segments with preeminent education, training, workshops, events, research, government and legislative representation, safety, and environmental sustainability guidance, as well as resources from the leading media company in the industry – NAPCO Media. Now a division of PRINTING United Alliance, Idealliance is the global leader in standards training and certification for printing and graphic arts operations across the entire industry supply chain. To learn more, visit printing.org.