

Case Story



Business Development Services



January 2017

Houston Independent School District Adds Value with Inkjet Digital Color

K-12 In-Plant implements a VarioPrint i300 press from Canon Solutions America to expand services and bring color to teaching materials

Published For:



InfoTrends

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Introduction

The in-house printing operation of the Houston Independent School District (HISD) is home to an impressive list of production capabilities. Over the years, however, it has lost its position as the primary resource for teachers' printed materials due to the increased number of in-school copier units. The in-plant operation was challenged with adding value for its students while meeting teachers' demands for fast turnaround. To achieve these goals, the in-plant operation opted to expand into inkjet digital color with an investment in the VarioPrint i300 sheet-fed production inkjet press from Canon Solutions America. The district can now offer its customers a flexible and affordable way to improve printed materials with color while also recapturing some of the print volume that had shifted to the distributed in-school copiers.

About the Houston Independent School District

HISD is the largest school district in Texas and the 7th largest in the U.S., supporting 286 schools over a 300-square-mile geographical area. The in-house print operation offers printing, mailing, and archiving services to the district's staff of nearly 30,000 and over 215,000 students. Additionally, the print center is the official printer for the City of Houston and insources work from community colleges and other local school districts. The 46-employee in-plant operation is housed across 30,000 square feet in three facilities throughout Houston and has a mix of digital, offset, and wide-format equipment.

The print center offers sheet-fed and web offset printing for large quantity print needs and digital printing for short-run, personalized, and on-demand print needs required by the district. The operation also provides full bindery, fulfillment, and distribution services, including the management of its own post office. Some of the applications that are commonly produced include school newsletters, marketing promotions, programs/booklets, invitations, pamphlets/brochures, direct mail, business cards, letterhead and envelopes, forms, flyers, annual reports, and posters.

The print center also manages a fleet of more than 1,260 multifunctional peripherals (MFPs) that produce about 96% of teachers' printed materials. Because the district installed copying machines in all the individual schools, the volume of work that the print center produces has declined. Chuck Werninger, Senior Manager of Administrative Services at HISD, is in charge of the in-plant. He wanted to increase the utilization of the print operation by expanding services and investing in more productive color devices. He explains, "Our sights were set on doing a better job of servicing customers and improving the effectiveness of the classroom materials that we printed. When the leases of several legacy black & white toner devices expired, we saw an opportunity to give our customers something they wanted and but didn't have—color. We needed color!"

Making the Case for the Color

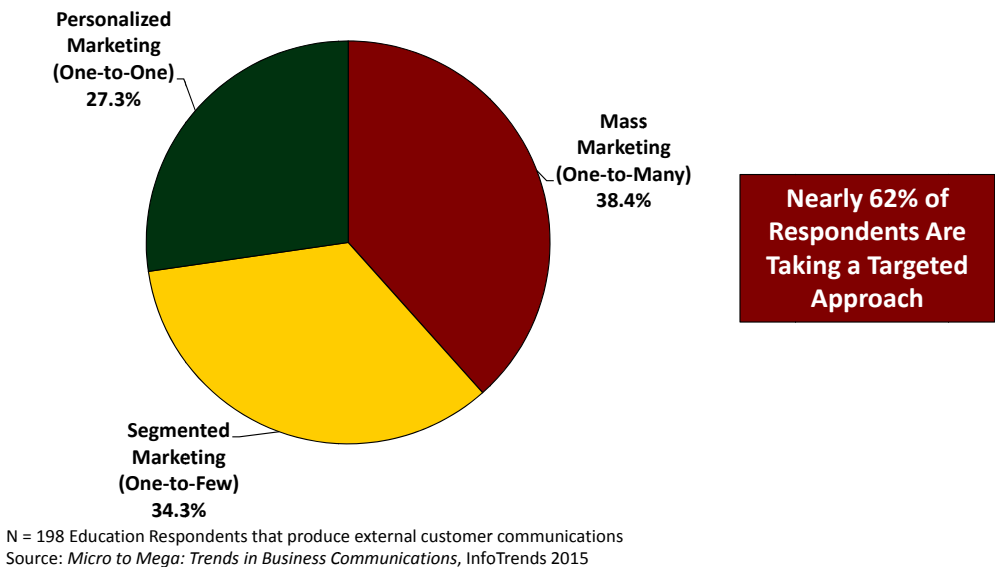
Werninger believed that adding a digital color printing press to his print center would offer teachers better tools for educating students. He elaborates, “Adding color to our teaching materials makes a world of difference in effectively explaining concepts to students.”

Research has consistently shown that color helps to connect neuropathways and that people remember colors better than verbal or textual cues alone. According to The Institute for Color Research (now called Color Matters), color can improve learning retention by 55% to 78% and comprehension by as much as 73%. Other studies have confirmed that color images are easier to remember than black & white images. The majority of survey participants reported that they could recall color images more easily than black & white images. Werninger’s goal was to cost-effectively enable HISD teachers to improve their learning materials and better support coursework.

Top Challenges for K-12 In-Plants

Beyond the need for color, HISD has many of the same challenges that other printers serving the education industry must face. One of the greatest challenges of in-house printing operations serving K-12 school districts is the high volume of teacher requests for customized course materials at the start of the school year. According to InfoTrends’ research, 62% of education providers’ printed materials are personalized to some degree. This means that education in-plants must invest in printing and finishing technologies to enable the fast turnaround of short-run work. The VarioPrint i300 sheet-fed inkjet production press enabled the print shop to handle more jobs, varying applications, diverse media, and advanced customization to meet classroom needs.

Figure 1: What percentage of your external communications or marketing/advertising campaigns fit into the following categories?



Letting Teachers Teach While Investing in Inkjet Technology

After much research and deliberation, Werninger decided that a high-speed, sheet-fed inkjet press would help meet the district’s volume demands as well as teachers’ needs for color printed teaching materials. Based on this decision, HISD printing services became the first in-plant to install a VarioPrint i300 sheet-fed production inkjet press.

Figure 2: HISD’s Print Center Staff and the New VarioPrint i300



This investment in inkjet made it possible to handle the short-run and fast turnaround times that the teachers required. The in-plant operation could now also bring affordable printing to the district in a centralized location, enabling teachers to spend time creating lesson plans and working with their students rather than copying the materials themselves. Werninger notes, “Thanks to improved efficiency and turnaround times, our teachers can now focus on doing their jobs and helping students. Our investment in technology has given them back the time that they were previously spending making copies.”

The VarioPrint i300

The VarioPrint i300 is a B3-format¹ sheet-fed inkjet digital press featuring color printing speeds of up to 294 ipm (or 8,700 sheets per hour) and 600 x 600 dpi output. The press provides high-speed and volume capability, combined with integrated finishing and quality levels. It offers quality printing on a broad range of paper media types, including inkjet-treated, coated or uncoated stocks, and Canon ColorGrip specialty media. According to Werninger, “With the sheet-fed digital printing capabilities on the press, we can easily change stocks and we’re rarely limited in terms of the finishing options that we can offer.”

Figure 3: The VarioPrint i300

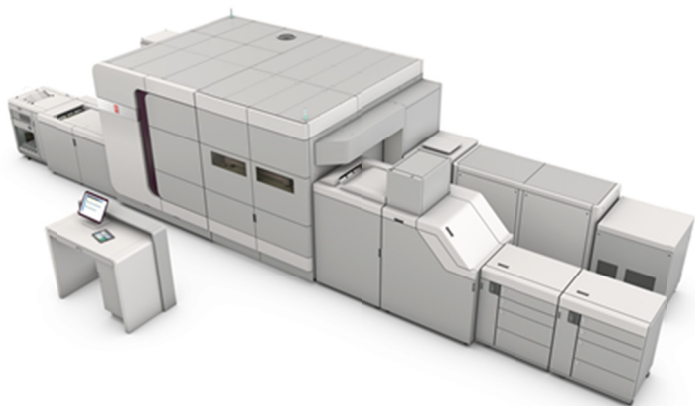


Table 1: The VarioPrint i300 Specifications

Metric	Size (mm)
Speed	Up to 294 A4/letter images per minute
Monthly Volume Range	One to ten million A4/letter images per month
Colors	Process color device (cyan, magenta, yellow, and black)
Inks	Canon-developed aqueous Inks
Maximum Sheet Size	13.9" x 19.7" / 353 mm x 500 mm
Maximum Imaging Area	12.7" x 19.5" / 323 x 496 mm
Media Weight Range	60 to 300 gsm (40lb Offset – 110lb Cover)
Maximum Input Capacity	9,200 sheets (load while print)
Maximum Output Capacity	6,000 sheets (unload while print)
Digital Front End	Scalable Canon PRISMAsync controller

¹ The B3 format is 13.9 x 19.7 inches / 353 x 500 millimeters.

Inkjet Offers Efficiency, Reliability, and Flexibility

Werninger states, “We invested in inkjet because the print production process is much faster, more efficient, more reliable, and significantly more cost-effective in relation to competing toner imaging technologies. In addition to all these benefits, it retains the flexibility of feeding sheets instead of web rolls.” He goes on to say that the press’ eight paper drawers coupled with online finishing will enable the operation to more efficiently accommodate the growing demand for cost-effective, completed pieces while accommodating tighter customer service-level agreements.

Werninger projects that print volume in the coming school year will be around 500 million impressions, with 20% to 30% being full color. He elaborates, “The VarioPrint i300 press is capable of producing these volumes and is going to deliver a cost-effective color printing option that will completely change what we do here. This press is a grand slam in our book—it offers very high quality, very fast speeds, and is extremely cost-effective.”

Beyond its full color capabilities, the print center plans to migrate to other projects and offer new products that use a variety of paper and finishing options. It also plans to expand into some personalization services that wouldn’t have been possible without the VarioPrint i300. Werninger continues, “We’re also running various test jobs to learn more about the press. We haven’t fully promoted all the capabilities of the new press yet, but we’re certain that our customers will be extremely pleased with the resulting quality, speed, and affordability.”

Figure 4: Print Applications at HISD

InfoTrends' Opinion

The HISD's investment in the VarioPrint i300 sheet-fed production press will help revolutionize the way that students learn in Texas' largest school district. Printed documents remain a valuable tool for students and teachers alike, and the addition of color helps enhance the learning materials. Werninger's implementation of the VarioPrint i300 is proving to be an investment in everyone's future!

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A digital printing and publishing pioneer as well as a marketing expert, Barbara Pellow helps companies develop multi-media strategies. She assists companies in creating strategies to launch new products, building strategic marketing plans, and educating their sales force on delivering value.

[Comments or Questions?](#)

This analysis was commissioned by Canon U.S.A. to identify the key value-added benefits of implementing G7 workflows into production digital color press environments. As print service providers continue to expand their offerings, Canon U.S.A. is focused on supporting their efforts through a wide range of services and workflow solutions.

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