Growth Opportunities and Efficiency Advancements
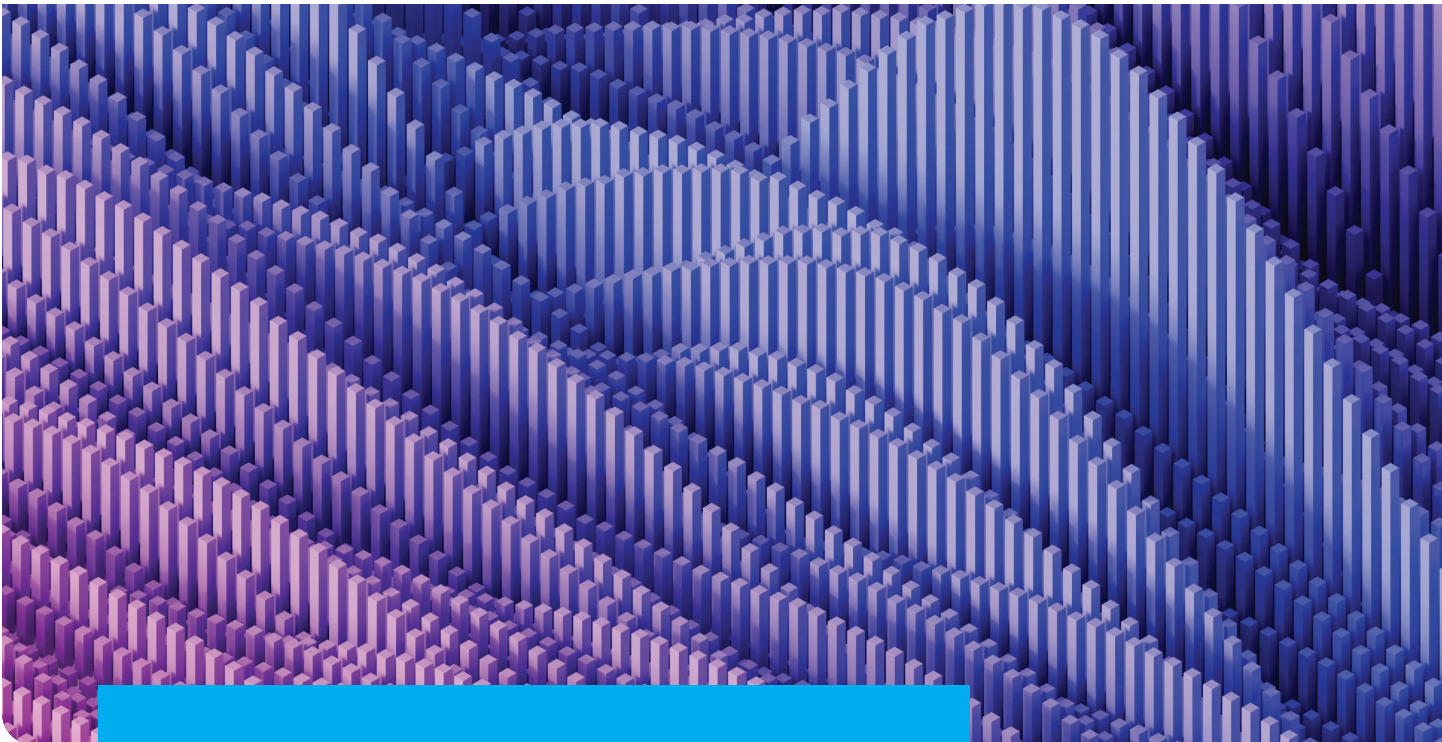## Help Increase In-plants' Value

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Growth Opportunities and Efficiency Advancements
Help Increase In-plants' Value

In-plant printing departments are at a pivotal point. Faced with pressure to continually add value to their parent organizations, they must both creatively find ways to add new products and services to their arsenal and unlock efficiencies in their operations. Savvy in-plants, however, are demonstrating that this is hardly an insurmountable task. And with the right investments in production equipment and software, paired with strategic workflow improvements, in-plants can help increase their value with expanded offerings.

This report highlights the latest opportunities for in-plants to explore to grow their operations and gain efficiency. These findings are backed by data sourced from PRINTING United Alliance in its 2024 In-plant KPI Report, sponsored by Canon U.S.A., Inc.

WHY IN-PLANTS ARE EXPLORING NEW OPPORTUNITIES

Throughout the print industry, print service providers are recognizing the advantages of expanding their capabilities, and that the latest advancements in printing technology have lowered the barriers to this expansion. In-plants are no exception, and while many primarily focus on common applications such as business cards, brochures, and financial statements, in-plant managers with an eye on the industry understand that by finding new services they can offer to their parent organizations, they can boost their overall value.

As reported in the 2024 In-plant KPI Report, wide-format printing is the most common application area in-plants are exploring. However, other opportunities include promotional product imprinting, apparel decoration, fulfillment, and wide-format installation, indicating there are several avenues in-plants can take to achieve their needed growth.

"Our biggest opportunities this year are wide-format signage, off-campus customer sales potential, partnerships, diversifying services such as warehousing/receiving, managed print/copier services, promo products, and apparel," stated one respondent.

In addition to identifying new applications to add to an in-plant's repertoire, PRINTING United Alliance research indicates that in-plants are struggling with aging equipment and limited physical space to operate in. Equipment downtime is a major hindrance in any printing facility, and with in-plants under pressure to deliver on fast turnaround demands, upgrading to equipment that offers the needed dependability, along with fast run speeds and a small physical footprint, in-plants can benefit in several ways, as the new equipment allows them to use their existing space to take on more high value jobs.

"Our biggest challenge is the limited space available for growth," one respondent stated. "The bottom line is that you have no control over organizational changes or building decisions."

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UNDERSTANDING HIGH-VALUE GROWTH AREAS

In-plants inherently offer their parent companies key advantages over external print providers, including their in-house proximity, which can drastically reduce delivery times and costs, as well as their knowledge of the specific needs of their colleagues, who often double as their customers. But where in-plants commonly find themselves losing work, is in situations in which an outside provider can offer a print product that the in-plant does not have the equipment to accommodate.

Wide-format printing is, by far, the service that in-plants are turning to most in their efforts to expand. As reported in the 2024 in-plant KPI report, 72.4% of respondents indicated they currently offer wide-format printed applications. Of those in-plants offering wide-format, more than half (55.1%) state they are seeing an increase in wide-format volume, with just 4.1% citing a decrease. This overall volume increase has been substantial as well, as 21.4% are seeing a volume increase of more than 15%, while 38.8% have realized an increase of 10% or more.

As the demand for wide-format printing has increased, in-plants have strategically implemented a variety of applications to diversify the wide-format offerings they can provide to their parent companies. While posters and presentation graphics (offered by 90.4% of respondents that offer wide-format) and banners, soft signage and flags (offered by 78.7%) top the list of commonly produced wide-format products, more than half of respondents offer the following:

- Directional signage/directories (67.0%)

- Window graphics (64.9%)

- Compliance/safety signage (58.5%)

- Wall/architectural/building graphics (56.4%)

- Floor graphics (55.3%)

Figure 1: Wide-format Services Offered by In-plants

Application	Number	Percent	Application	Number	Percent
Posters/presentation graphics	85	90.4%	Floor graphics	52	55.3%
Banners/soft signage/flags	74	78.7%	Point-of-purchase displays	29	30.9%
Directional signage/directories	63	67.0%	Pole signs	26	27.7%
Window graphics	61	64.9%	Dimensional signage	22	23.4%
Compliance/safety signage	55	58.5%	Backlit signs	18	19.1%
Wall/architectural/building graphics	53	56.4%	Digital displays	11	11.7%

N=97 in-plants that offer wide-format printing
Source: PRINTING United Alliance, 2024, In-plant Printing KPI Report

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In addition to the new application offerings that wide-format printing provides, demand for high-value, full-color printing is on the rise at in-plants. Overall, 61.1% of respondents reported an increase in volume in 2023 compared to 2022. While the majority of respondents citing an increase is a positive development, it is helpful to understand where that demand stems from. Of the total respondent pool, 89.3% report offering four-or-more color printing, with 64.1% of those respondents citing an increase in volume in 2023, with just 12% citing a decrease.

The story unfolds further when exploring in-plants' volume growth expectations. The positive sentiment among in-plants is revealed in that 60.6% of respondents expect to see a volume increase in 2024 compared to 2023, with just 7.9% expecting a decrease. It's evident, however, that the expected growth stems from printing of four-or-more colors, with 60.9% expecting a volume increase. This is far higher than monochrome production, in which just 39.5% of respondents expected an increase, and one-to-three color printing, with just 41% expecting an increase.

Figure 2: Page Volume Trends 2024

Q: How do you expect the volume of pages your in-plant will produce in 2024 to compare with year-earlier volume?

Page Type	Responses	Increased	Unchanged	Decreased
Total	127	60.6%	31.5%	7.9%
Black & white	124	39.5%	43.5%	16.9%
One-to-three color	105	41.0%	52.4%	6.7%
Four-or-more color	115	60.9%	33.0%	6.1%

Source: PRINTING United Alliance, 2024, In-plant Printing KPI Report   NAPCORESEARCH

The path to printing in four-or-more colors has become far more accessible given the latest advancements in production-level digital printing, which also allows in-plants to more easily print variable content. Prior to full-color, production-level digital printing, a common technique among in-plants in producing applications requiring variable data or information, was to first print offset shells, which would provide the static content needed on the document. Then, these shells would be run through a digital asset, which would add the variable components.

In a video interview with *In-plant Impressions* sponsored by Canon, Martin Schneider, the assistant vice president of print production and logistics at Careington International Corp., a Frisco, Texas-based provider of a variety of discount health and dental insurance and wellness and lifestyle services, his in-plant's investment in four Canon imagePRESS V1000 digital presses provided several efficiency gains. Specifically, he says, eliminating offset shells has given the in-plant the peace of mind that the wrong shell wouldn't be inadvertently sent to the wrong client, and it has reduced the time needed to change out various stocks. Additionally, the in-plant can adapt quickly if a client rebrands its logo or messaging, avoiding a stock on hand becoming obsolete.

"One of the biggest things was actually branding," Schneider says. "Like most large markets, healthcare markets are always changing … They're always trying to tweak their identity. So, when someone changes a logo just from blue to purple, that's a bunch of stock that gets thrown away. Sure, black and white is cheaper per click than color is, but the amount of time managing it and managing both the stock and the process far outweighs the cost of having color on demand all the time."
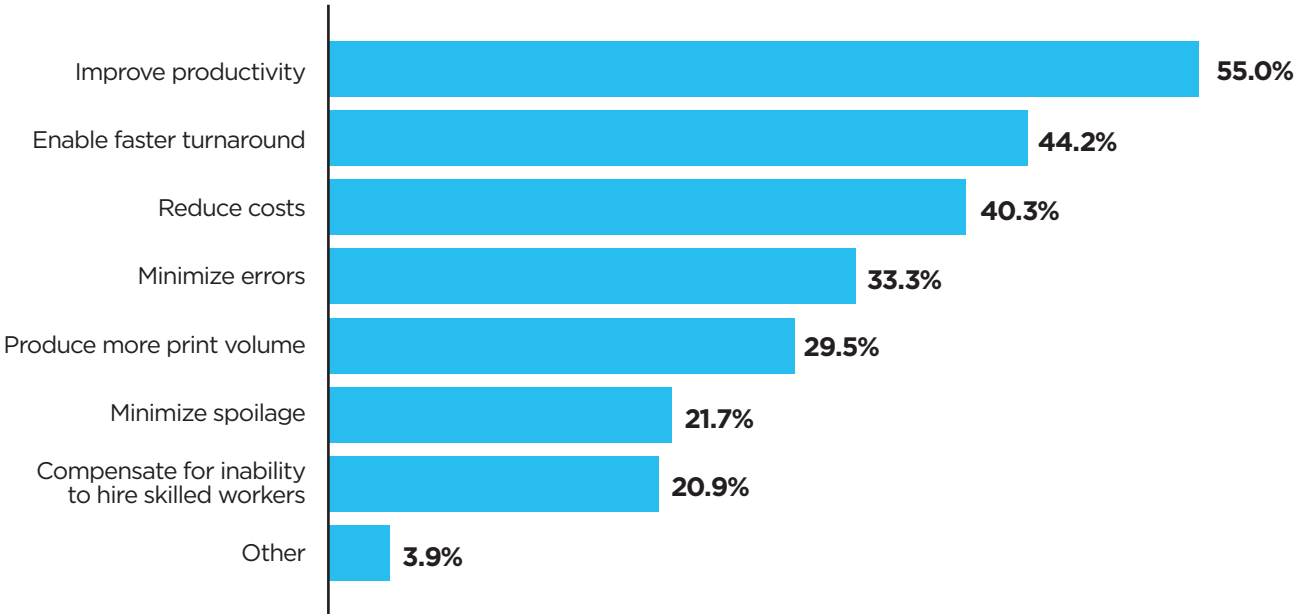
EFFICIENCY A KEY FACTOR

While offering high-value, full-color production is imperative for in-plants to best serve their parent organizations, the need for rapid production cannot be overlooked. Efficiency encompasses far more than just press speeds however, and for in-plants to operate at their optimum level, maximizing their machine uptime, eliminating errors, and providing on-time delivery is essential. Implementing technological solutions to boost efficiency is an important consideration for in-plants in their quest to provide consistent, reliable, high-quality printing to their parent organizations, especially at a time in which budgets are tight and hiring is challenging.

Automation of both equipment and workflow has become a key factor in how in-plants are planning for their futures. In fact, approximately two-thirds of respondents (65.9%) in the 2024 In-plant KPI Report state they are actively seeking automation features. The top reasons cited center on efficiency, with improving productivity being the most prevalent driver of the pursuit of automation (55.0% of respondents), followed by enabling faster turnarounds (44.2% of respondents).

Figure 3: Drivers of In-plant Automation

Q: What are the reasons you are actively seeking automation features on equipment or workflow automation? Select all that apply.

Driver	Percentage
Improve productivity	55.0%
Enable faster turnaround	44.2%
Reduce costs	40.3%
Minimize errors	33.3%
Produce more print volume	29.5%
Minimize spoilage	21.7%
Compensate for inability to hire skilled workers	20.9%
Other	3.9%

N=129
Source: PRINTING United Alliance, 2024, In-plant Printing KPI Report

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Beyond speed however, other efficiency gains are key factors in in-plants' decisions to automate. Approximately 40% of respondents view automation as a path toward reducing costs and nearly 30% of respondents report exploring automation solutions to increase their print volumes. Waste reduction is another key component of automation at in-plants, with 33.3% of respondents stating automation can help minimize errors, and 21.7% of respondents view automation as a method of reducing spoilage as they lower the number of human touchpoints in production. Meanwhile, nearly 21% of respondents indicated that automation could help compensate for the challenges they are facing in hiring skilled labor.

At Careington, Schneider explains that the addition of the Canon imagePRESS V1000 digital presses along with automation of production workflow have helped the in-plant increase its production volume by 500% while operating with fewer staff. The machines' uptimes, run speeds, and reliable quality have all led to Careington becoming what Schneider says is the print shop with the highest productivity per square foot he has ever seen.

"There's kind of a one-two punch," he says. "First of all, we went with a higher caliber, fewer employee model, which definitely helped out a lot. The other thing is that the systems integrations that Canon has provided us with, as well as some other vendors, have allowed us to do some things that previously took more people to do, and it eliminated a lot of human error. So yes, we've lowered our labor and increased both our quality and our output."

Similarly, Iowa State Printing Services, the in-plant printing operation at Iowa State University, has benefited from the efficiency of digital printing with the installation of its Canon varioPRINT iX3200 — one of the first inkjet press installations at a higher-education in-plant. In a video interview with In-plant Impressions, Nathan Thole, director of Iowa State Printing Services, shares that the installation of the varioPRINT iX3200 replaced the volume of their offset presses, as well as both a color and multiple black and white toner printers.

"It's very fast and very high quality," Thole says. "It handles all types of media. It doesn't have to be special treated media. It basically allowed us to do everything we were doing before, just better in every category. Cost, quality, efficiency, speed – everything."

In addition to exploring the interest in-plants have in automation and the drivers behind that interest, the 2024 In-plant KPI Report reveals other key efficiency statistics and their impacts on the segment. For example, on-time delivery rates are a major component of an in-plant's value to its parent organization. With in-plants typically located within the same building or on the same campus as the clients they serve, this proximity is often a major advantage over external print providers, as it helps reduce turnaround times.

As reported in the In-plant KPI Report however, respondents indicate that, on average, 94.6% of their work is delivered on time. While this statistic appears initially encouraging, digging deeper into the results reveals that 11.7% of respondents state their on-time delivery rates are below 90%, with nearly 4% indicating on-time delivery rates below 80%.

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Production errors are another key factor in in-plant efficiency, and while the In-plant KPI Report does paint a positive picture with just 2.8% of print jobs requiring reprints due to production errors, there is room for improvement. In fact, just over half of respondents (52%) state that production error reprints occur on 1% of jobs or less. That is a statistic that all in-plants should be striving for and given the importance of reliable delivery and the safety nets of modern, automated equipment, it could be expected that far more than roughly half of in-plant respondents have a reprint rate of less than 1%. Additionally, 20.2% of respondents have a reprint rate of 4% of their jobs or more, with 7.8% stating their reprint rate is more than 5%. In an industry in which success is so closely correlated to reliability, a reprint rate that nears 5% or more should be alarming. For in-plants striving for efficiency in their production, implementing quality-control measures should be top priority to reduce errors that lead to costly reprints.

Figure 4: In-plant Production Error Rates

Q: What percentage of your print jobs for your parent organization have to be reprinted because of production errors?

Average: 2.8%

1% or less	1%+ to 2%	2%+ to 3%	3%+ to 4%	4%+ to 5%	5%+
	16.3%	10.9%	0.8%	12.4%	7.8%
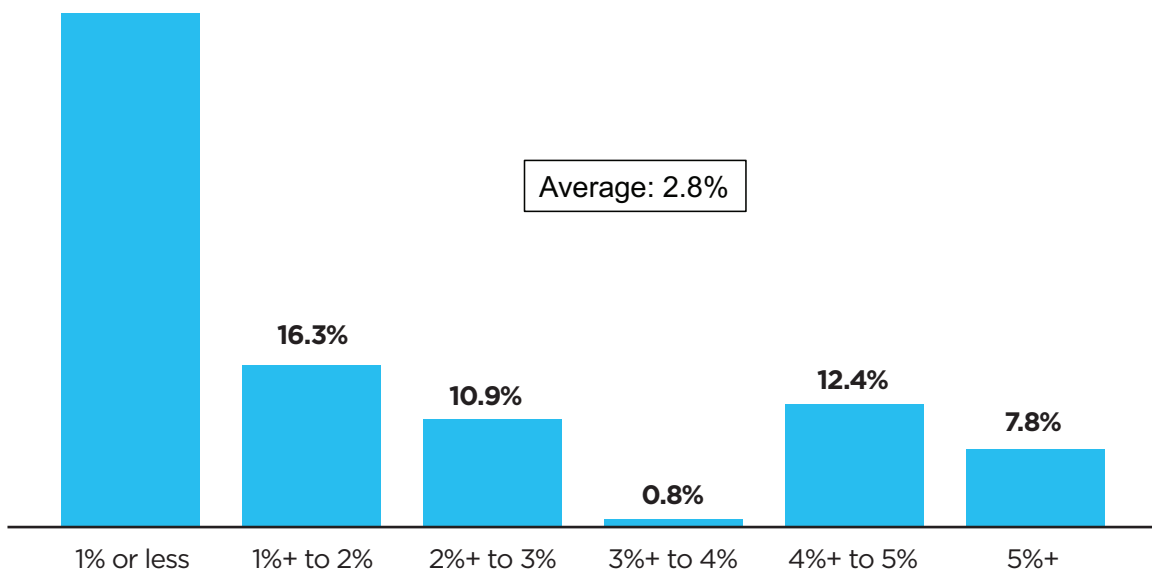
N=129
Source: PRINTING United Alliance, 2024, In-plant Printing KPI Report

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For example, Careington's Canon imagePRESS V1000 digital presses feature in-line spectrophotometers, precision registration technology, and dynamic image transfer technology, which all help to provide consistent results that keep clients satisfied, while helping enhance the in-plant's productivity.

"The in-line spectro helps us calibrate and makes sure we're calibrating quickly," Schneider says. "We can do so right in between jobs and keep moving. We can run more impressions before there's any kind of color skew or image defects."

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CONCLUSIONS AND RECOMMENDATIONS

In-plant printers provide significant value for their parent organizations, providing cost-effective, high-quality print services that remove third-party print providers from the process. However, simply being an in-house printer may not always be enough for parent organizations to justify the cost of operating an in-plant.

As commercial printers have diversified into a variety of value-add applications including wide-format printing and full-color, variable applications powered by digital printing, in-plants have had to assess their own capabilities to keep up. Seeking growth areas that could benefit their companies and investing in the equipment to make it possible is imperative for in-plants to continue to justify their roles and positions as their parent organization's print provider. With the latest advancements in wide-format printing and full-color digital equipment spanning both electrophotography and inkjet, in-plants have a multitude of technology options to explore when seeking to expand their offerings.

While a diversity of applications is important for in-plants to serve all of their parent organizations' print needs, efficient production and turnarounds are imperative in demonstrating the value of an in-plant. Though in-plants typically have a natural advantage over external print providers, given their proximity to their clientele, there are pitfalls that can impact efficiency that in-plants should avoid. Specifically, reprints due to production errors, equipment downtime causing delays, and outdated equipment in general can all be detrimental to in-plants' ability to produce work at the speed needed by their clients. In addition to investing in equipment that not only operates at high speeds, exploring automation solutions should be at the top of in-plants' to-do lists.

Current equipment and software platforms serving the print industry offer a variety of automation capabilities, and at a time in which hiring is difficult and in-plants are understaffed, machine automation can help pick up the slack.

In-plant printers play a vital role in serving their organizations' missions. Those that diversify their offerings and can deliver quality results with fast turnaround times will be well-positioned and appreciated for years to come.

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