

Océ Workflow White Paper

Beyond the specs



Key workflow factors to consider when purchasing a wide format print solution

You've made the decision to invest in a wide format production printing solution, but what comes next? Naturally, it makes sense to compare equipment specifications and determine which solution is right for your printing needs based on key factors such as print speed, color or black and white, print and scan resolution, and paper sizes. However, the ultimate objective should be to select the equipment that delivers optimum productivity while addressing your company's overall business goals. To meet this objective, it's critical to broaden the purchase consideration analysis — going beyond the spec sheet to find the solution that best fits your overall workflow requirements.

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Understanding wide format printing workflow: more than just printing

Printing environments continue to be challenged by a growing demand for productivity — to deliver output faster and with greater image quality — yet with less waste, lower costs, and diminished impact on the environment. While technology advances that deliver hardware that's faster, cheaper and better are important, are your overall productivity requirements really being met?

Workflow is not just a buzzword; it is truly the final frontier to achieving efficient productivity, creating competitive advantages, and improving the bottom line. It encompasses the document submission and job preparation steps leading up to printing and the finishing, distribution, and archiving of the finished output. Workflow can account for a vast majority of costs, but it can also deliver the richest area of increased efficiencies.



The stages of workflow

Workflow can be broken down to three stages — pre-production, production and post-production. With a better understanding of what makes a wide format printing solution productive — as well as the bottlenecks that can occur in each — you will be better equipped to select a wide format solution that meets your organization's specific printing workflow needs.

Pre-production

This is the process of submitting documents to a wide format printing system. This can be a single file submitted via a print driver, a large print job consisting of multiple originals, a hard copy original put into a scanner to make copies, or a hard copy original scanned to make a digital file. In this stage, not taking advantage of the latest technologies, especially with respect to software, can have a negative impact on your overall operations. For example, selecting a digital workflow software solution that enables users to avoid costly bottlenecks by batch-processing and previewing files from the desktop, while providing flexible print output options, simplifies the pre-production stage. An accurate digital file that can be proofed on-screen helps ensure each page of every document will print exactly as intended, the first time. In essence: what you see is what you print.

Production

In the production stage, users are concerned with how the wide format print system interacts with the files it receives — including how the controller processes the file so that printing can occur quickly and how the scanner interprets the data from a hardcopy original and renders the file for duplication or digitalization. In this stage, choosing equipment that delivers true multi-tasking ability will not only save users time, it will increase productivity. For example, equipment with advanced queue management allows users to change settings of printed jobs or jobs on hold, prioritize rush jobs, and reprint processed jobs. Users have full view and control of all pending and active jobs. Likewise, systems that combine templates with powerful advanced image technology that automatically analyzes each pixel to ensure optimal quality can deliver one-touch copying/scanning and the right results, the first time.

Post-production

This final workflow stage encompasses what the user has to do with the output from the wide format system. Post-production is the user experience after the job is printed. This can include everything from retrieving single or multiple prints, to hand-collating output, to sending and receiving a digital file. In this stage, any impediments to quickly accessing

output can not only lead to frustration, but also reduced productivity and poor quality finished jobs. Improper stacking or poor document collation can result in messy and disorganized prints. Or prints may end up on the floor, resulting in missing sheets or miscollated sets.

What makes a wide format workflow productive: the four components

With an understanding of your organization's unique workflow needs, it's time to select the wide format production printing equipment that is best positioned to help the users in your organization achieve a productive workflow. To do that, let's consider the four components of productivity and how the wide format system chosen impacts the user's overall productivity.

Quality

The output produced on a wide format system is very indicative of the machine's quality. Some of the factors that influence quality are the dots per inch (DPI) of the print engine and scanner, the fusing process used, the algorithm used to digitize hardcopy input, and scan technology. Equipment that delivers consistently high quality prints and copies with any original, in any mode, means that users do not have

Wide Format Printing Workflow



PRE-PRODUCTION

- Document creation
- Document submission
- Job creation
- Job preparation
- Job proofing
- Job submission
- Document retrieval (hardcopy or digital)



PRODUCTION

- Processing
- Copy/print/scan
- Delivery



POST-PRODUCTION

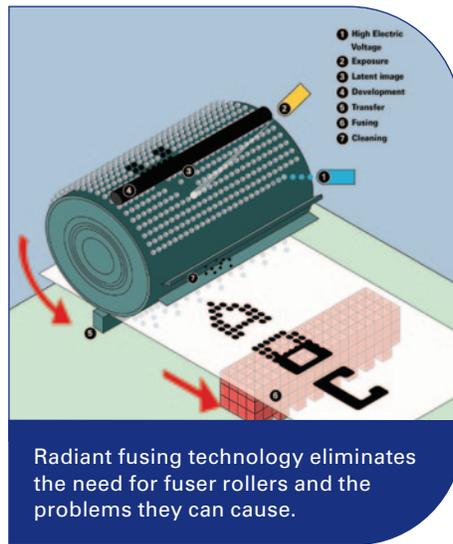
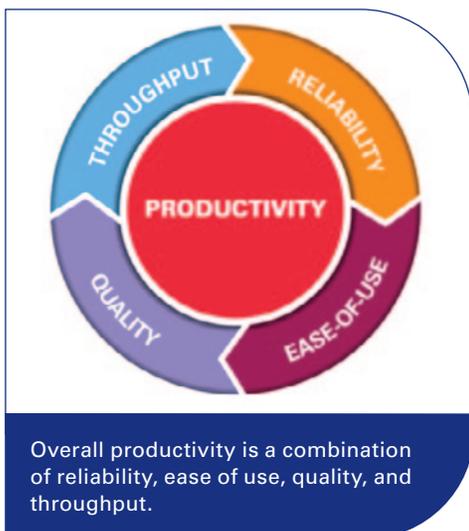
- Trim
- Sort
- Fold or roll
- Collect, distribute
- Accounting
- Archive

- Management

to worry about lost information or unusable output. Users save time, since output is always accurate, and your organization can save money since much less waste is generated.

For example, conventional fuser roller technology requires fuser rolls to stay heated even in standby mode. This element of stored heat requires cooling fans that draw dust into the machine itself, which can pose quality concerns as well as lead to machine down-time due to necessary repairs. Alternative fusing methods, on the other hand, use innovative, energy efficient technology in which heat passes through the media and the toner virtually melts into the paper. The fuser section turns on as paper approaches and turns off as paper exits. Because there's no contact between the drum and the radiant fusing section, there is no resolution loss, dot size degradation, or line fuzziness. Also, a straight paper path and absence of fuser rollers minimize opportunities for paper jams.

Traditional inkjet systems force users to choose between print speed and quality since users can select only one print setting for a file or job. However, systems equipped with intelligent print technology that automatically adjusts printer settings based on the image content without additional adjustment by the operator means sacrificing print speed for print quality is a thing of the past. By automatically sensing each part of a mixed image — from fine lines/text to photographs



— and determining the best print quality and print speed for these individual areas, intelligent printing technology delivers optimal output.

Quality can also be compromised when scanning originals that suffer from background smudges and poor line quality, but there are systems that offer the capability to improve the quality of an original. Scanners equipped with intelligent scanning technology that eliminates unwanted background and wrinkles while keeping colors consistent produces the highest quality color scans in productive, mixed used environments.

Imagine a single page with a photo, drawing, plain text, reversed text, and shaded areas. Most copiers would attempt to scan all of these features by calculating an average setting with which to scan the entire page. However, intelligent scanning technology can actually evaluate each feature, calculate the optimal scan settings for each, and then print each feature based on those unique settings. This means that often copies are better than the originals. This technology overcomes the limitation of conventional CIS scanners to provide the right results the first time, without users having to manually fine-tune complex settings.

Reliability

Reliability is often defined by system uptime and parts replacement requirements. In a production printing environment especially, a wide format system is critical to a user's workflow. Therefore, it's vital that it require minimal service visits and parts replacements.

When selecting equipment, it should be designed for durability. In many traditional toner-based printers, the drum is exposed when clearing a media jam, and components can be made from lightweight plastic. An exposed drum leaves the machine susceptible to expensive drum damage whenever clearing a paper jam, while walk-up users can easily damage the machine if components are constructed of weak materials.

Look for a system that that is completely enclosed, with a protected drum, and made of heavy duty, durable materials. Closed toner systems have been designed to isolate toner from the working parts of the printer — meaning there is no need to regularly clean toner from the interior of the printer and it's easy to load toner, even while printing — resulting in longer uninterrupted printing.

Toner handling can also impact a system's reliability. While systems that advertise no waste toner receptacles might seem more efficient — the need to re-circulate waste toner through the system can lead to frequent service requests to remedy poor print quality and breakdowns as the fuser roller and pressure roller can become dirty with toner.

Ease of use

First and foremost, the equipment you select must be easy to use. How a user interacts with a wide format system is also a critical component of overall productivity. Daily tasks such as media roll changing, output collation, and job management and submission all affect overall productivity as it relates to the user experience.

On traditional inkjet equipment, media handling is cumbersome. Many systems require users to stop the system to load media, which interrupts operation. Some printers are designed with media loading located in the rear of the machine, which means the machine requires more operational space and can't be placed close to a wall. Users should seek out a system that delivers the greatest media flexibility, such as the ability to load media rolls "on the fly" with no interruption to ongoing operations, and an ergonomic operation requiring a small operational footprint.

It's also important to look for equipment that delivers the most flexible media options. This not only means the number of rolls the machine can hold — advanced systems can hold up to six rolls each holding up to 650 feet of media — but also a greater flexibility of media choices, such as the ability to print on bond, film, Tyvek®, polypropylene, and recycled paper.

In the job submission phase, ease of use is critical — especially for walk-up users. This is why it's important to select a wide format system that offers a full range of print/job submission management tools — from Windows® certified drivers to robust print management software for sending to multiple print devices — that address every customer need. Job submission tools should also reduce guesswork by offering productive functionality such as "what you see is what you print" preview, file-by-file inboxes. In addition, look for a scanner that offers easy to use templates. Scanner templates contain common user scan settings such as dpi and file type and make it simple for users to walkup and create high quality scans the first time.

Ease of use also extends to final document output, including document stacking. Many devices only offer a front catch bin, which leads to haphazard stacking or document collation resulting in disorganized prints



A top delivery tray ensures paper output is neatly stacked and easily accessible.

and copies. Oftentimes extra floor space must also be dedicated for a table to sort the output. A front accessible lower receiving tray and/or top delivery tray, on the other hand, ensures paper output is neatly stacked and easily accessible on top of the printer. Output curling can also lead to hard-to-manage collation, but dynamic anti-curl features, particularly useful in inkjet printers, ensures reliable stacking, even when printing on the most curled end of a roll.

Throughput

Mechanical print speed is only one component of throughput, and the difference between many systems is often marginal. Rather capabilities like controller processing power, queue management, instant-on availability, and copy/scan productivity are more critical to achieving greater throughput.

For example, many print systems have embedded controllers that struggle to process multiple document jobs or complex files that contain PDF transparencies and AutoCAD® wipeouts. They also become overwhelmed when asked to perform print/copy/scan functions concurrently. Systems with powerful controllers capable of handling complex files and concurrent tasks deliver a significant advantage. Concurrent processing allows for file processing, printing, copying and scanning to occur simultaneously. For example, while the system is printing one

job, it can be processing the next and also copy or scan without stopping the production of the primary print job. This reduces user wait time and ensures superior overall system speed.

Throughput can also be significantly hampered if a system does not offer proper queue management. For example, if the machine views jobs as single files, multiple users who are simultaneously sending prints and making copies can cause interspersing of jobs, often in between multiple copies of a single file. With advanced queue management capabilities, it's possible to better control workflow by easily prioritizing rush jobs, placing jobs on hold and changing the settings on jobs already processed. In critical situations, this functionality may make a dramatic difference in meeting demanding deadlines.

Systems that deliver a truly "instant-on" capability ensure they are ready to go when you are since no warm up time is necessary. In low volume environments where systems are generally not printing continuously, instant-on capability becomes an important factor. For example, when using some traditional toner-based systems, users can wait up to four minutes for their first print when equipment comes out of a "cold sleep" while other systems require a minimal 40 seconds before producing a first print. There is no need to compromise user readiness with a high-energy-use standby mode.

Many systems are simply not designed for a productive user experience. In many cases, equipment lacks the ability to create standard operating procedures for common workflow tasks. More advanced systems that offer templates actually simplify recurring tasks and enable one-touch operation, and these custom settings can be tuned to the company's unique workflow for copying and scanning. The result — users experience increased efficiency and productivity, lowered risk of mistakes and ease-of-use, so jobs are completed faster and more accurately.

Tying it all together: productivity and your business goals

Achieving a productive workflow can have a significant impact on a user's everyday operations and an organization's overall business goals tied to operational performance, profitability and business growth.

Business goal: improving operational performance

Investing in wide format print solutions that streamline and optimize workflow can critically impact the "big picture" — improving overall operational performance. It's possible to simplify pre-production processes, increase productive output, and improve post-production print handling with equipment that is capable of eliminating traditional bottlenecks in these stages. When the overall operational performance of your organization is improved, so, too, is your ability to increase revenue and expand operations.

Business goal: increasing profitability

Increasing profitability is directly linked to the ability of your organization to decrease costs tied to variables such as labor, service, and consumables; even file processing time. With a highly productive wide format printing solution, it's possible to overcome these challenges — intuitive equipment means less time spent on manual processes;

equipment designed with durability in mind means fewer service calls and downtime; and output that is accurate the first time reduces waste and costs associated with re-prints.

Business goal: expanding business growth

Growing your organization's volume and revenue can be inhibited by an inability to offer new services, competitive pricing, or even open new locations. Selecting the right wide format equipment that delivers reliable, quality output consistently and is adaptable to your expanding business needs can set you apart from your competitors. Also, with a productive workflow that cuts out excess waste and inefficient processes, it might be possible to shave dollars off your operating costs — which could then be passed on to customers in terms of more competitive pricing or used to invest in your organization's future growth plans.

It's clear that the costs of productivity inefficiencies can be high, but at the same time the rewards of replacing inefficient processes and equipment with productive ones can be exponential. As you take the next step toward investing in a wide format printing solution, consider how the equipment will impact your organization's path toward a truly productive workflow. Going beyond the spec sheet will not only address the challenges faced by individual users but those across your entire organization.



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