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ASSESSING THE ADDED VALUE OF LARGE FORMAT SHEETFED PRODUCTION

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Another White Paper in a series from the manroland, Inc. Print Technology Center

It may come as a surprise to many that we're seeing a resurgence of interest in Large Format sheetfed presses. More than just "interest," in fact. There's been an up-tick in Large Format purchases during recent years and, despite a struggling global economy, that trend is continuing.

To be sure, presses with sheet widths of, say, 56 inches and up still comprise only 5% - 6% of the world's press population. In North America, that means 200-some presses vs. approximately 4,400 mid-size 40-inch machines. Yet, that 5% produces 12% of the yearly print output — not a surprising figure, considering that the average Large Format printing press can turn out nearly 2.5 times as much as a mid-size press.

This "simple math" no doubt contributes to Large Format interest, as globalization and mergers create larger companies looking to accommodate higher-volume jobs. The action in Large Format, however, isn't only coming from print giants; it's also from mainstream firms frequently using large format presses in applications where mid-sized machines typically hold influence.

But moving up to Large Format isn't the same as simply replacing a 40-in. press with a newer model or like-size competitive machine. So what's driving these printers' decisions and, equally important, what's behind their success?

To find out, we'll cover key items, attitudes and methods in this White Paper, as we examine ...

- How Large Format can help establish a powerful competitive "value position"
- The print production system: why successful operations don't think in terms of buying a Large Format press, per se
- The heart of a system: press "must haves" that enable creative flexibility, ensure output quality, productivity and, in turn, increase profitability
- Ancillary items and issues: overcoming roadblocks and easing the transition to a Large Format system, cost-effectively
- Value-added system options and services with high payback probability

Focusing on your own operation and ways to better service your own customers not only can unlock Large Format's potential for your operation, but also reveal how you can use it effectively to "lock up" customer relationships, perpetuating success.

by **Michael Mugavero**
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Creating a ‘Value Position’ with Large Format

...among customers, in your operation, and on your bottom line.

Printers frequently voice concerns about customers perceiving print production as a “commodity,” with no significant quality difference and few (if any) service advantages from one operation to another.

These perceptions are often accurate, to a considerable degree. Most operations produce with one or more mid-sized presses — 40-in., 6-color with a coater has been popular — with, perhaps, a foiler or other in-line option. Most of these presses feature similar automated systems that help minimize makeready time, reduce waste; and they can run a variety of substrates and deliver significant output on demand and in a timely manner.

The overall marketplace result, not surprisingly, is constant pressure to drive down prices (and printer margins) ... pressure that intensifies during economic

“We’re trying to build the business. The new press will help us do that.”

times like those of today.

Breaking away vs. running in circles.

While the move away from older, slower and more labor-intensive large presses (see sidebar story: “Large Format Retrospective”) to more automated 40-inch machines requiring less space and capital investment made a lot of sense 30 years ago, today investing in another mid-size machine may merely compound the issues printers face.

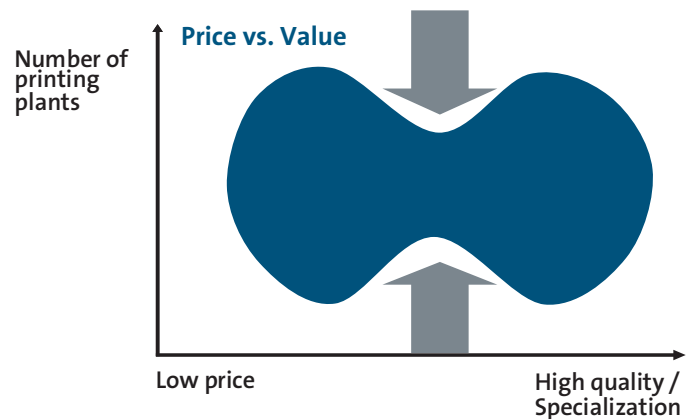
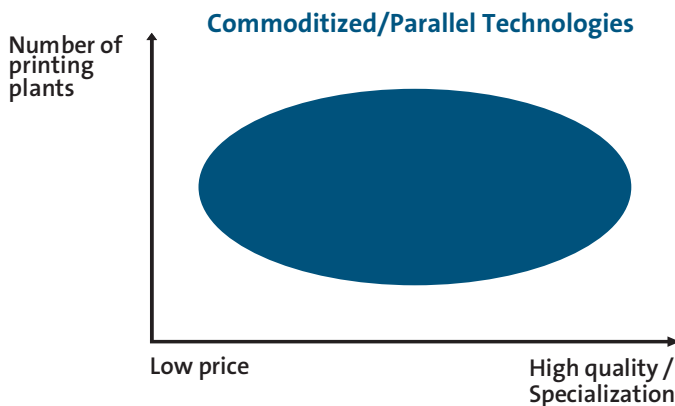
Mired amid a myriad of “me-too”

competitors, it’s difficult to differentiate your offering, and even harder to maintain margins. Some printers set themselves apart by adding mailing, fulfillment and other services. But even if more automation and additional services give your operation a brief burst forward, you still find yourself looking over your shoulder (and not very far) — or to either side — with you and the “other guys” going full tilt, as if racing chariots around the coliseum in the movie “Ben Hur.”

No wonder more printers are asking themselves questions such as:

- How can I reduce costs, improve productivity and simultaneously raise margins?
- How can I increase profitability on existing work, and/or enter new markets profitably?
- What new products and services might this call for?

Print Marketplace Evolution



While there are always some cost leaders and some quality leaders, a largely “commoditized” price-driven marketplace stems from a relatively homogeneous grouping of printers with similar technologies and offerings. The future indicates fewer printers with more clearly delineated segments of low-cost providers vs. higher quality (and higher margin) value leaders. While competitive differentiation is difficult in the first scenario, it is a crucial requirement in the second.

- Does my current equipment deliver the capacity, flexibility and output quality required?
- Would alternative technology be a better choice? If so, what; and how do I get it?

A couple of key statistics assisting the search for answers are (a) the number of makereadies done per year and (b) typical run lengths in the shop. This gives them a handle on production costs and efficiencies, and clarifies the potential of options that they see.

As you may suspect, it's not unusual for answers to quickly point toward Large Format production as an option worth exploring.

Bigger isn't necessarily better. But it's a start.

Large Format print production, of course, is not unique to sheetfed litho. Webfed, gravure, rotary letterpress, silk screen and ink jet applications also compete for share in this arena.

More than any other, however, the daily output of several thousand 40-in. presses makes up the lion's share of sheetfed business in North America. It also offers the greatest potential for Large Format growth. And moving up from a 40- to, say, a 56-in. press offers the greatest gain in capability with the fewest and least formidable obstacles.

While many printers agree in conversation that breaking the 40-in. mold offers tremendous potential, when

"Large format has been instrumental in getting accounts we wanted; it is driving our growth."

it comes to taking action on a new press ... well ... it's often far more comfortable to stay with the familiar, along with most of their competitors. The prospect of "digging a deeper hole" is preferred vs. the fear of possibly "jumping from the frying pan into the fire."

But those who do take a closer look at Large Format find more than a few items to pique their interest — beginning with the obvious advantage of larger sheets and increased productivity.

Looking for more than production volume.

These "close lookers," however, bring a lot more than math skills to the party.

Although added output and production efficiency can help keep hourly rates down, these printers are looking further ... for unique ways to excite current customers and attract new ones — putting more value on the sheet, so to speak ... with capabilities, systems and services that can't be easily found anywhere else.

This calls for focusing on their own operation and their customers' current as

"I like being the only printer in the area able to print a label this size."

well as potential, emerging print needs. While still keeping an eye on the printer down the street, they're not trying to beat competitors at the same old game; they're changing the rules and playing a new game their way, on their turf. And they're winning.

Take a lesson from leaders.

Periodic surveys and various industry studies reveal common characteristics among the most profitable, leading firms, along with ways of working that also apply to today's print operations. Two key factors emerge:

1. Leaders do things differently; they're more open to alternatives.

Regardless of product or service, successful companies typically are managed like true manufacturing concerns. They generate total system solutions, and focus on identifying the most effective means of production — whether or not the methodology is mainstream or an alternative.

2. Leaders do everything a little better.

Among printers, this means finding ways to make a bit more in prep and makeready efficiency; a little more on press, in the bindery ... using technology to do everything a bit better, usually more quickly and with less waste.

The top-line result is greater customer satisfaction. And the savings can be used to stymie competitors via reduced prices, or be applied directly to the bottom line.

It's all part of differentiating one's operation by providing more relevant value to customers.

Simple Math. Sizable Difference.

	40-in. Press		56-in. Large Format
Speed	15,000 IPH	18,000 IPH	14,000 IPH
8-1/2 x 11 sheets produced	120,000/hr.	144,000/hr.	224,000/hr.
Square inches utilized	16,800/hr.	20,160/hr.	31,360/hr.

Even running at higher speeds, output from a 40-in. press falls far short of a modern-day 56-in. Large Format system in sheets printed per hour, as well as in square inches utilized.

Thinking “customers” rather than “competitors.” Turning “sales calls” into “buy calls.”

Certainly it’s important to stay abreast of what other printers are doing, which can also affect steps you take to distinguish your own operation. But it’s easy to get caught up in reacting to their pricing and such — playing their game, rather than sharpening your own.

Fact is, you’ll find more clues to differentiating yourself from competitors when communicating with customers and prospects. Simply keep in mind that the key topic isn’t what you have to sell, but what they want to buy.

After all, customers and prospects are competing in their marketplaces. They’re looking for ways to differentiate their offerings, and to more effectively loosen-up their customers’ purse strings. Are you ready to deliver the custom-tailored total solutions they’re looking for?

Their “wish lists” will likely reveal (a) things that neither you nor your competitors have thought about, and (b) a level of interest in certain deliverables ... both of which could point you toward the right production system.

Creative flexibility: Large Format’s key to customer-focused value, and new markets.

This is where Large Format shines. It can offer many more relevant options to turn

“We are doing more packaging, POP displays, corrugated and plastics work. We can price more competitively, because we can double up.”

your print-production manufacturing stream into something customers will be hard-pressed to find elsewhere ... all done with utmost speed and efficiency.

Larger sheet size, in and of itself, may be what it takes to meet customer-specific Point of Purchase (POP), signage or other needs. Using that large sheet for multiple-up runs can add new packaging applications to a printer’s repertoire, and clientele to his customer list.

Fact is, modern large format presses provide a versatile platform for all market segments. The ability to print on virtually any substrate — very light commercial production papers, foils, numerous plastics, heavy corrugated materials — you name it, is a major factor. And today’s more-advanced Large Format press systems automatically adjust to accommodate material variations.

With this kind of expanded overall system production potential, the Large

Format printer’s marketplace suddenly becomes much greater, too: Publications, book production, POP displays, posters, signage, top sheets, labels, lenticulars, a host of niche applications...all fall within these machines’ capabilities, which puts them within the printer’s reach, too.

Production system vs. press.

Of course, many customers look for more than “just color” printing, be it 4-, 6-, 8- or more. And modern Large Format systems can oblige with in-line options as well as post-press prep capabilities.

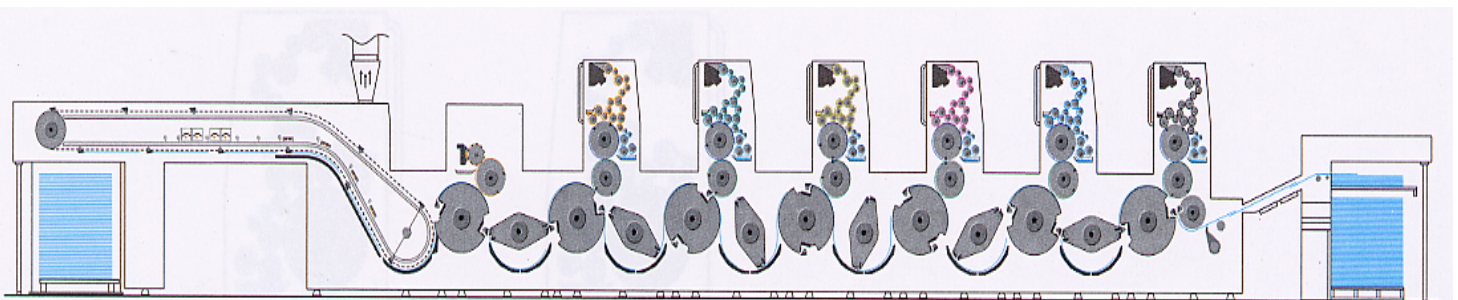
Coatings are high on many customer lists; packaging marketers, in particular. From high gloss to matte finishes, or chemical-, water- and rub-resistant coatings, today’s advanced Large Format presses can do the job as well or better than mid-sized machines. Anilox rollers with chambered doctor blades control application with extremely high precision. Double coater configurations offer single-pass dual applications, and enable the combining of aqueous and UV chemistries.

Slitters can add in-line finishing capability. On a 56-in. large format press running 16 pages up, for example, sheets can be slit in half and subsequently finished as medium format sheets in an existing bindery.

A system that locks in business.

In short, whatever unique application the customer may be looking for, the right

Large Format Press-Design Advances



The double/double cylinder and transfer design at a 7 o’clock position ensures more precise registration, and is one of many recent innovations (including automated plate loading, blanket washing, CTP workflow, and ink setting controls) that boost output quality while putting Large Format makeready times on a par with even the most advanced mid-size presses.

Large Format production system and technology can provide it.

The key is to look beyond the press in both directions, from up-front pre-press CTP and workflow systems, through in- or off-line finishing and converting components ... in order to cost-effectively create an overall, seamlessly blended functional system designed to meet total Large Format production goals.

This equips any operation to deliver tangible value for customers — helping them overcome competitive challenges and distinguish their marketplace offerings.

It also helps a printer do the same. The ultimate result is often more than a “job well done,” but client recognition of exceptional capabilities that build and continually strengthen a sustained relationship.

Three keys to Large Format press success: automation, automation, automation.

The heart of Large Format production is, of course, the press itself. Modern Large Format machines are much faster and easier to prep than their less automated predecessors. Compared with a 40-in. press, you get additional output from the

“We get jobs done better and faster; that’s what clients really care about.”

“Automated systems make a major difference. Makereadies are very fast; I can run jobs much more efficiently.”

same input. Makeready times are virtually the same, while throughput from a 56-in. machine is approximately twice as many 8-1/2” x 11” (or any other multiple-up size) images.

All Large Format presses are not “automated alike,” however. And terms like “automated” and “fully automated” are often used loosely. Be sure to ask for specifics and note differences as you investigate various manufacturers and press options.

Fully automated plate loading, washing of blankets, impression cylinders and ink trains; performing full sheet size changing with little or no operator involvement — these are just a few of the features to look for ... systems that keep makeready time to a bare minimum and, day after day, help get more jobs out the door.

Automated workflow, computer-controlled ink setting, color monitoring and the like also shorten turnaround time while ensuring brand-specific color reproduction and overall output quality.

Configuring the press to print from sheets or rolls can pay dividends, too. Switching to or from roll paper takes only a few minutes, and the accuracy of in-line sheeters is within .002. Users report cost savings of 10% - 15% over converted sheets, with payback on the sheeters in only 18-24 months.

Comparing 40- vs. 56-in. sheets, you can do much more with just a bit more ... on that Large Format press.

Ancillary issues and items: making a smooth, cost-effective transition to Large Format.

For most operations, stepping up to a Large Format production system literally involves more than a press. As we’ve already noted, from prepress CTP to in-line options and finishing equipment, end-to-end perspective is a must.

This need not be an overwhelming task, however, or as costly as one might think. Especially if you start now — thinking about what may go into a system you envision.

Take CTPs, for example. Due to technological advances or extensive use, many operations upgrade or replace their CTP every 4-5 years. The possibility of moving to Large Format sometime in the not-too-distant future has led some printers to lay the foundation ... buying a CTP that can also handle 56” plates.

This not only takes care of one item, once they’re ready to move, but also effectively helps them amortize the cost.

The Double-Up Difference

	40-in. Press	56-in. Large Format
Speed	15,000 IPH Full Automation	14,000 IPH Full Automation
Automated Plate Loading	Yes	Yes
JDF Compliant	Yes	Yes
Perfecting	Yes	Yes
Manning/Crew	2	2
Max. Sheet Size	28” x 40”	40” x 56”
In-line Sheeters	Yes	Yes
In-line Color Control	Yes	Yes
8-1/2 x 11 sheets produced	120,000/hr.	228,000/hr.

Comparable presses in terms of automated systems, same crew. The difference is sheet size ... and output, hour after hour, day after day. Slitters on the 56-in. press can also send medium-format sheets for finishing in the printer’s existing bindery.

Depending on the existing setup, a guillotine and post-press folding may need to be added for Large Format production.

Or instead of slitting on-press, some printers opt for an automated cutting system so they can maintain higher press speed. In any case, the cutting system needs to be large enough for turning the sheet, which means looking for a 62- or 63-in. cutter to use with a 56-in. large format press.

Another time- and money-saving tip: Excellent quality reconditioned CTPs or other devices may be available. Ask your would-be Large Format press provider about certified-compatible equipment for the system you're considering.

Point is: For Large Format production, think in terms of total system solutions not only for customers, but within your own operation.

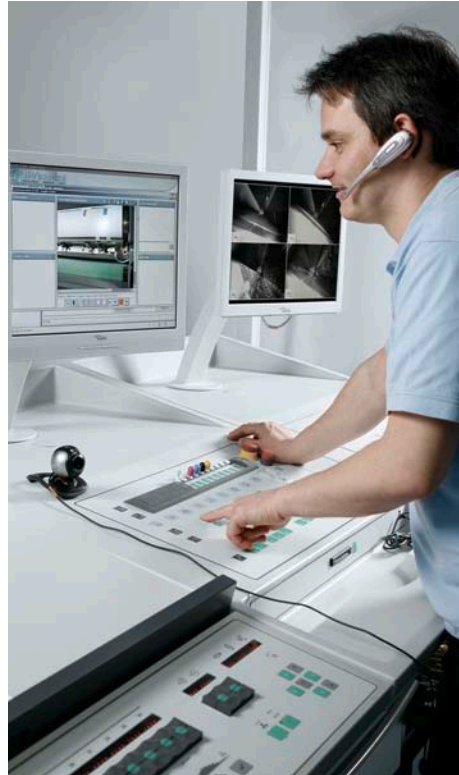
The training component in Large Format production.

Operator training is especially important when moving to Large Format. Crews need to get up-to-speed on new, advanced press technologies as well as overall production system components in order to fully realize the value they can provide.

Follow-up refresher or advanced-performance training can also be a plus, whether conducted on-site or at the press manufacturer's training center, particularly as business grows and marketplace offerings evolve.

Look for payback probability in value-added options.

With Large Format systems, value-added press services that provide for future technology upgrades, if offered by the manufacturer, are well worth it. Upgrades can keep a press at the leading edge, equipping you to take on new, unique projects in a changing marketplace while also enhancing efficiency and bottom-line returns.



Remote service options offered by some Large Format press manufacturers can save hours or even days of downtime.

“We went for bigger-better-faster and also got ‘easier to use,’ with automated plate loading, color control and other setups that input info directly into the press, and dramatically reduce makeready time.”

Customer care programs such as remote 24/7 service coupled with machine monitoring technology are another option that typically pays its way many-fold. For example, saving just half a day of downtime has been shown to more than cover the remote service fee for an entire year.

Many printers will insist on services like these, which generate ROI throughout the lifetime of the press.

Define “Large” to find the size that’s right for you.

There are, of course, various width sheetfed presses in the Large Format category. In this White Paper we have focused primarily on 56-in. because it delivers the full gamut of large format advantages vs. the popular 40-in. mid-size crowd, with the least effort and investment in ancillary items.

We have also recently seen quite a few 73-in. presses find new homes. Often, however, these are replacing older large format machines. While usually expanding size capabilities (to 73 from 63 or 64 inches) the new presses include critical automated systems such as those found on new 56-in. machines.

How big is too big? Beware the digital ambush.

There may be reasons to think even bigger, to produce 80-inch jobs, for example. Keep an eye out for a new competitor in such situations, however, particularly if run lengths on these projects are relatively short.

Super-wide or grand format digital presses with UV capability can handle 80- to 90-in. jobs quite well. They cost considerably less than a conventional 80-plus press, and per-project prices are tough to beat.

You need not necessarily concede those jobs, however. If there's enough short-run work (e.g. 50 – 200 posters) to support it, we know of situations where the printer could bring in a 90-in. inkjet unit — plus a 56-in. conventional Large Format machine.

Now he also has the system to hammer out the major production work — 25,000 16-pagers, “X” number of coupons, labels, a 10,000-poster run, or even book work — taking on many jobs with the 56-in. press that the other presses can't.

“Speed to market is a key to success. We ask will this help us do it faster’?”

Ultimate Large Format value: payback for you.

In short, if you feel squeezed by today’s economy and commoditized by a host of “me-too” 40-in. competitors, a move to Large Format could give you a critical edge.

While there is no “sure thing,” there are ways to stack the deck in your favor. And it starts when you look for Value — the kind that only total-system Large Format production can deliver.

- Value to customers via products and services they can’t easily find elsewhere.
- Value offered by new market opportunities.
- Value in advanced, automated Large Format press features that ensure fast makereadies and output quality, with unmatched system flexibility, productivity and efficiency.
- The value of forward-thinking about ancillary system equipment, to make the move to large format easier and more affordable when you’re ready.
- Value from options and services that enhance long-term press and overall system performance, while saving you plenty in the bargain.

There’s no question that Large Format value is working for more and more printers nowadays. Almost invariably they report that these are the presses booked-out the longest ... that give them entre to accounts and business opportunities they otherwise wouldn’t have had ... that provide the most value to their company.

What about yours?



No More Manpower; Much More Production Power: *In one shop, just one man runs a Large Format 6-color press with coater, in-line color control and the usual cadre of automated systems. One other crew member brings over mill skids for each job. By running stay-open inks, a once-a-week press cleanup is all that’s needed.*

“Some of our orders are for 500 sheets, others are 250,000; most runs are 15,000 to 50,000. This press makes us competitive in all of these situations.”

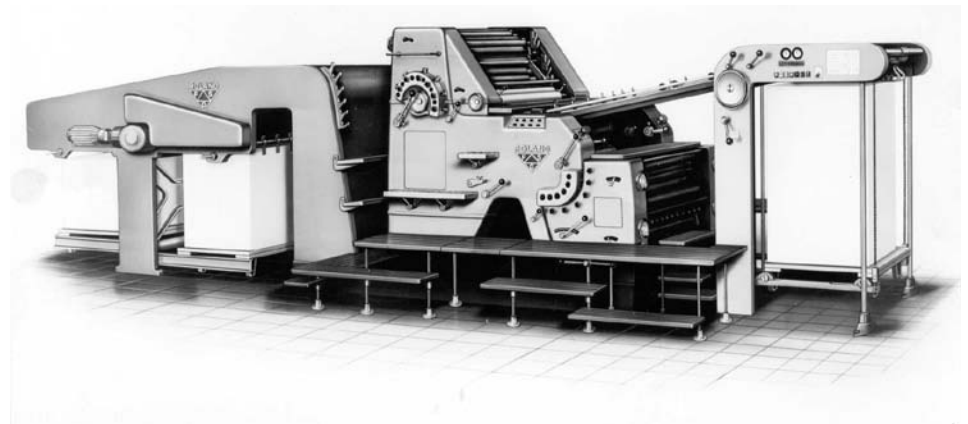
Large Format retrospective: Dominant player in bygone days ... reborn with 21st Century technology.

For decades, large presses (typically sheetfed lithographic equipment in widths of 49-in. to 70-in.) essentially ruled in the printing of books, magazines, posters, signage, packaging, commercial printing — just about anything.

During the early 1970s, usage became more centered on packaging, books and specialty applications. Declining demand induced primary North American makers of large format sheetfed machines (Miehle/Dexter/Goss and the Harris Company) to halt production. Used and reconditioned presses became the primary option. Although retrofitted with newer, automated modifications, long, labor-intensive make-ready times remained the norm. And factors ranging from quality issues, slow production speeds, high initial investment and cost-of-ownership, to a lack of skilled crafts people — all contributed to limited interest in large format production.

Meanwhile, printers seeking lower capital investment models and better ROI while more easily attaining print quality along with improved efficiencies, gravitated to more automated mid-sized machines; and 40-in. presses became the standard.

Since the early 1990s, automated systems have been infiltrating every area of Large Format presses and print production. What's more, modern Large Format presses can run virtually any substrate, from very light commercial production papers, to foils, plastics and heavy corrugated materials. The best press systems, in fact, automatically adjust to



From computer controlled inking and color monitoring, to automated plate loading, blanket washing and more, today's large format presses deliver output quality along with makeready ease and speed equal to or better than mid-sized machines ... and put many more sheets on the floor at the end of the day.

accommodate material variations.

Although still outnumbered 20 to 1 by over 4,000 mid-sized machines in North America, large format is rapidly gaining

followers, as printers discover the value of production systems built around these presses with 21st Century technology.

The Print Technology Center



Located at manroland U.S. headquarters in Westmont, Illinois, the Print Technology Center serves as a focal point for addressing customer-specific as well as industry issues. At any given time, a combination of press owners and operators, industry experts, engineers, field sales and technical specialists may be exchanging viewpoints along with data and information, while advancing new ideas and practical recommendations for meeting both current and perceived future challenges.

On-site presses may be used to test and/or verify concepts and suggestions. The Center also functions as a demo site, frequented by prospective and current customers.

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