



Investing in
industrial
single-pass
digital
printing for
corrugated

efi[®]








According to Smithers Pira, in the next five years,
digital printing will advance around
13% annually in the packaging segment.

It's considered an “unstoppable” trend, given that the manufacturers of boxes and labels no longer see inkjet printing as a complement to their current equipment but rather a vital part of their strategic development.

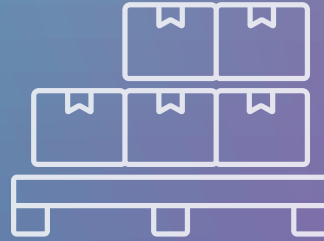
Thus, the demand for higher quality packaging, sustainable packaging, personalized products, e-Commerce and other requirements make evident the intrinsic value of digital printing. However, these merits are not always enough for corrugated manufacturers to make the leap and invest in the future of digital technology.¹

¹ Alimarket magazine, Marta Castillo, July 4, 2002

5 major trends will change the packaging industry's game over the next 10+ years. It's the secret to maximum efficiency.

KEY TRENDS IMPACTING THE PACKAGING INDUSTRY		TREND IMPACT						
		MODERATE	1	2	3	4	5	VERY HIGH
1	 <p>Growth of e-commerce channel. Grocery e-commerce is growing by ~17% YoY but still has low market share. More efficient packaging designs will be required to support growth.</p>		2				5	
2	 <p>Rapidly changing consumer and customer preferences. Consumer preferences are shifting towards personalized, convenient, healthier and affordable products that will require creative ways to increase manufacturing flexibility to deal with SKU proliferation.</p>				3	4		
3	 <p>CPG and retail margin compression. Many CPGs are losing the battle for shelf space and margin growth, which is increasing pressure on suppliers such as packaging manufacturers to slash cost.</p>		2				4	
4	 <p>Increasing pressure on sustainability. Consumers, CPGs, and governments are pushing for sustainable packaging (e.g., corporation's sustainability commitments, increase in regulations and policies – plastic and single-use bans)</p>		2				4	
5	 <p>Digitization of packaging (IoT). The IoT is opening new ways for companies to interact with customers and improve the supply chain.</p>			1			3	

SOURCE: Mckimsey

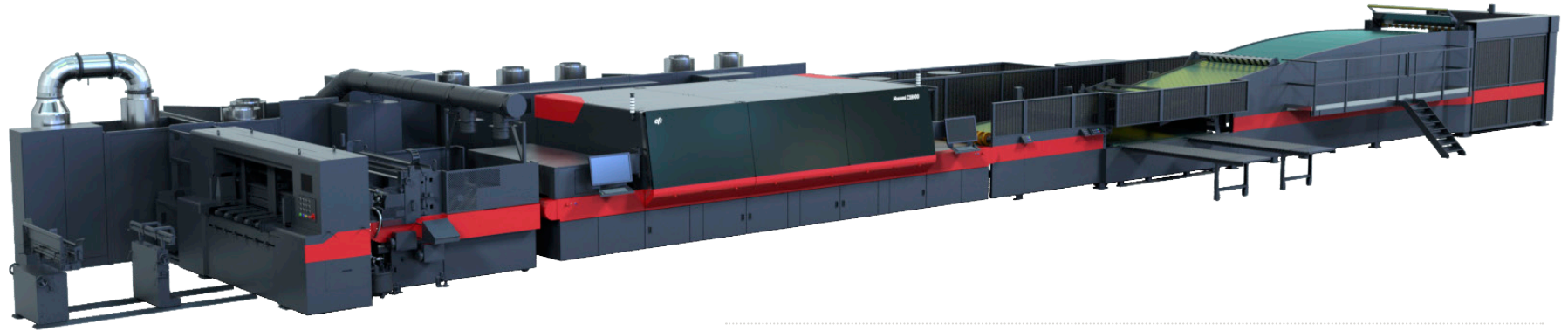


Digital isn't just for short runs.

The data supports that digital inkjet printing is the only efficient way to manufacture short runs of corrugated packaging. But the reality is that longer runs of 10,000 or 20,000 boards are becoming more and more frequent on digital devices. And producing even longer runs of up to 40,000 boards can be achieved by managing digital consumption smartly.

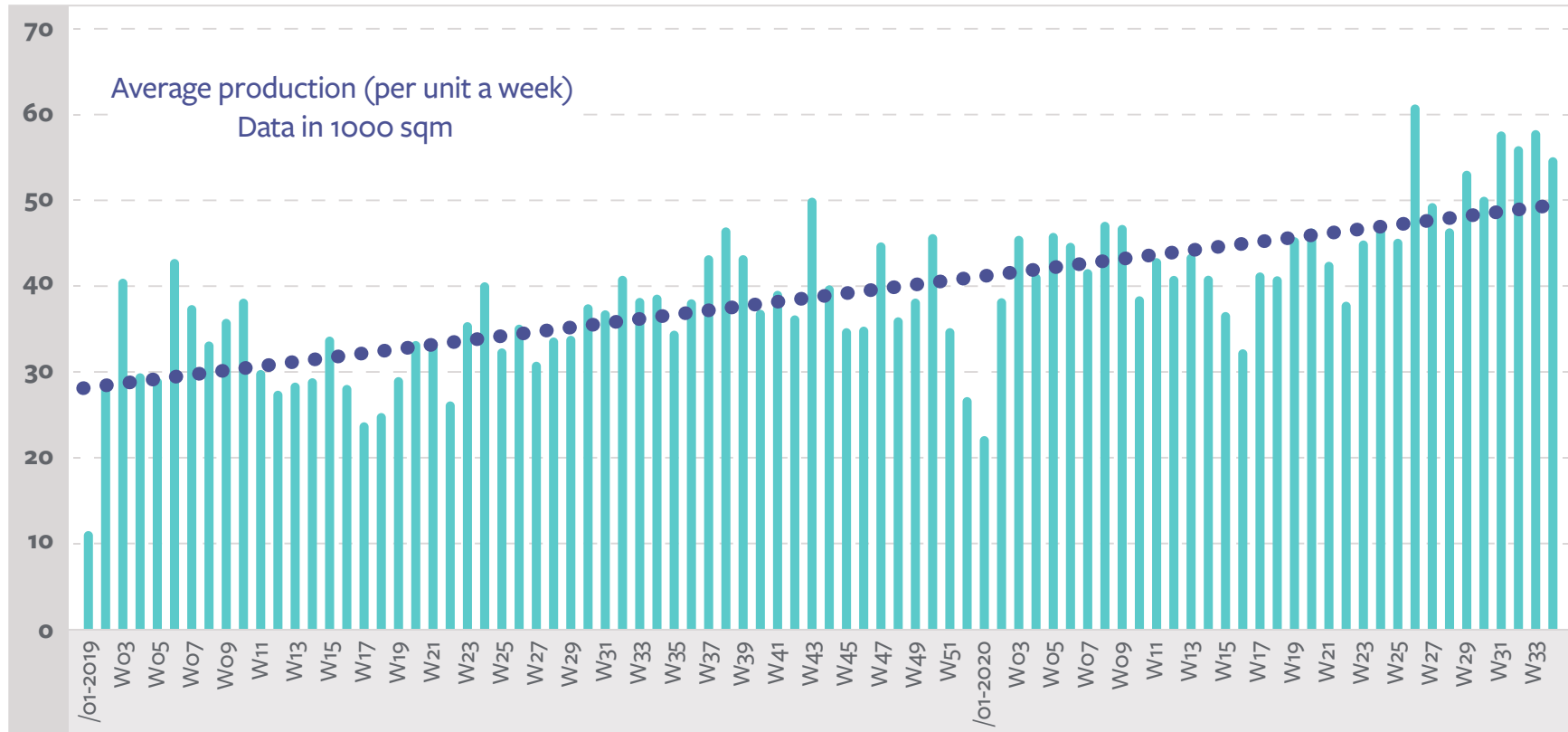
EFI Nozomi C18000 Plus. For the long run.

The EFI™ Nozomi C18000 Plus printer's printing width of up to 1.8 meters and double lane printing makes those longer runs profitable. with an up to speed of 4,600 boards/hour for sheets of 3.28 ft (1 meter) in length. Using double lane productivity increases the up to speed to 9,200 boards/hour.



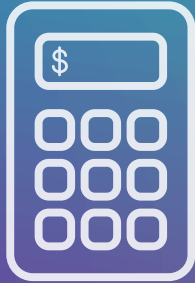
Nozomi's evolution with sustained increases in productivity and reduced costs demonstrates how digital inkjet printing technology is gaining ground over analog in manufacturing plants.

Using double lane productivity raises up to 9200 boards/hour



The graphic shows the variation of the aggregated production with Nozomi C18000 in 30 customers: 36% increase from January 2020; 22% increase from April to June 2020, during COVID-19 lock down.

Ink costs are only part of the equation



Although the price per kilogram of ink is higher compared with inks used in analog technologies, ink is only a small part of the total cost of each product.

There are no plates and tools, and these savings compensate for a higher unit cost of ink.

Sub-contracting pre-press, plate making, ink mixing, setup sheets, not to mention the process times, also offset the higher ink costs.

And since LED digital is a non-contact inkjet printing technology, you can use less-expensive liners because they're not pressed during the printing process. You can reduce the outside liners from 180 grams to 170 grams and from double wall flute to single wall, reducing the overall unit cost of the digital boxes where the structure of the box is not a limiting factor.

The Nozomi C18000 Plus has tools that optimize the amount of ink used in printing without waste or cleaning requirements. The printer's printing modes can be configured for different types of liners and designs or you can use the standard printing modes:



PHOTO
(matching all colors)



POP
(production mode)



ECO
(ecologic mode)

Break even points



Premium HQ

Order Avg: 4000 M²

Times: 5

Colors: 5+OVP

Digital GR/M²: 5,1

Coverage: 80%

Paper Gr: Same

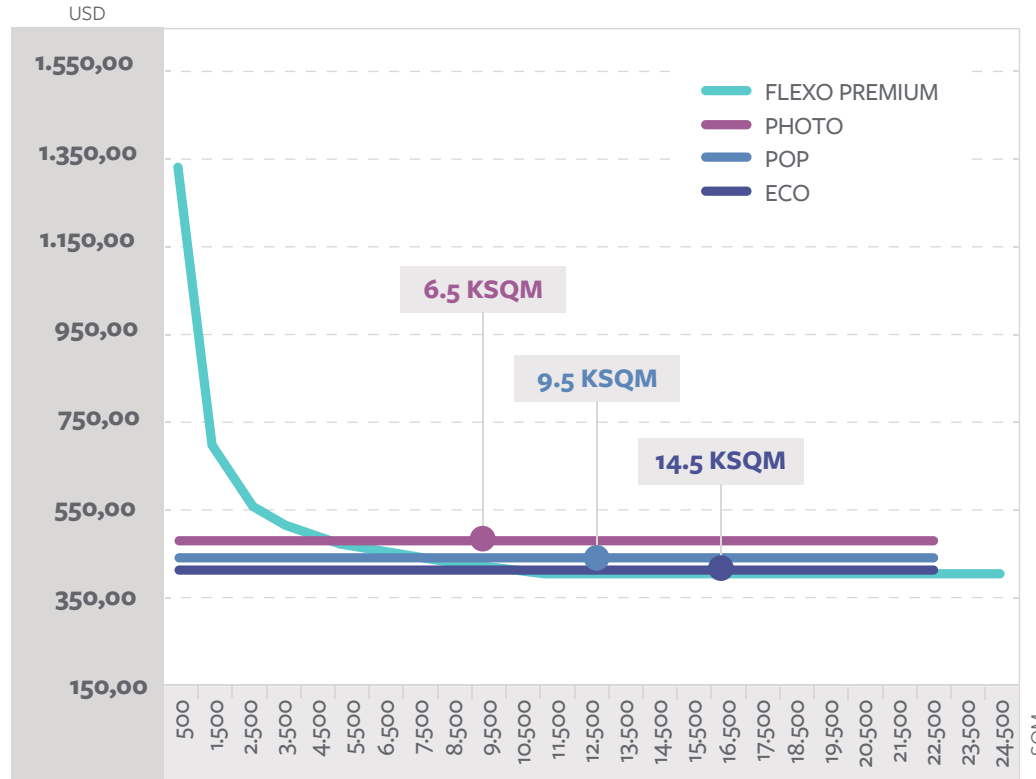
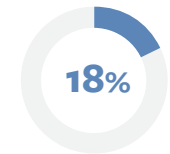


PHOTO
Ink Consumption



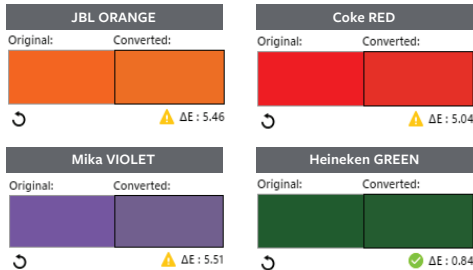
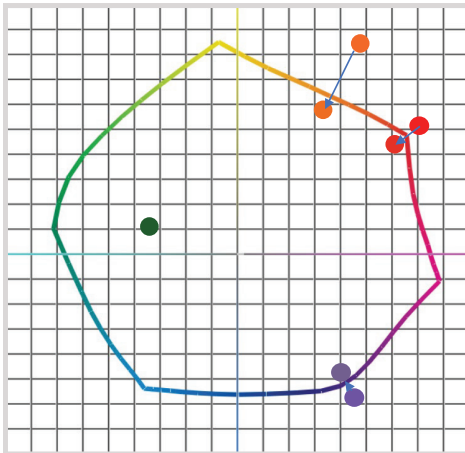
POP
Ink Saving



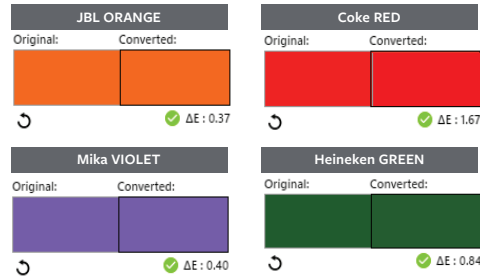
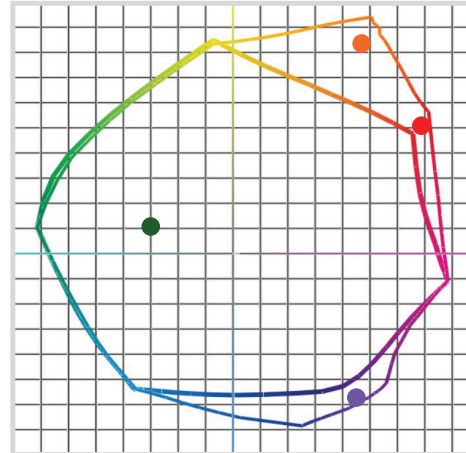
ECO
Ink Saving

Target colors are inside color space when using CMYK+OV.

GRACoL® 2006 CMYK Gamut



GRACoL® 2006 CMYK vs
Nozomi CMYK+OV Gamut






Savings up to 30% from one print mode to another

Printing modes




COATED PAPERS

All kemi white papers. Primer application needed.

PHOTO	POP	ECO
<p>Maximum saturation Glossy appearance Extended color gamut 97% Matching Pantone® Fogra PSD Certification G7 Master Qualification</p> <p>A</p>  <p>100%</p> <p>Ink Consumption</p>	<p>High saturation Glossy appearance For industrial productions Fogra PSD Certification G7 Master Qualification</p> <p>B</p>  <p>18%</p> <p>Ink Saving</p>	<p>High ink saving Good image quality For industrial productions</p> <p>C</p>  <p>25%</p> <p>Ink Saving</p>

UNCOATED PAPERS

Kraft and test recycled white papers. No primer application needed.

PHOTO	POP	ECO
<p>Extended color gamut Matt appearance Satin aspect using primer</p> <p>A</p>  <p>100%</p> <p>Ink Consumption</p>	<p>Industrial color gamut High graphics Matt appearance Excellent ratiior Quality/Cost Satin aspect using primer</p> <p>B</p>  <p>20%</p> <p>Ink Saving</p>	<p>Industrial color gamut High graphics Low ink consumption Matt aspect</p> <p>C</p>  <p>30%</p> <p>Ink Saving</p>

Ink consumption varies according to color space, graphics complexity and liner used.

Why you should invest

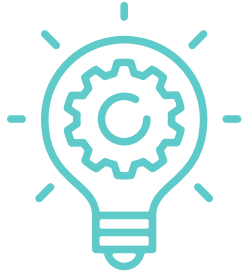


Market demands are requiring shorter-runs, versioning, personalization and more – and that’s where digital comes into the picture. With the robust Nozomi C18000 Plus single-pass printer, you can generate new, profitable business opportunities with an investment of the same size as analog technology.

Superior, consistent print quality throughout your entire process.

The Nozomi C18000 Plus uses flexible Genuine EFI UV LED Inks to reach 97% of the Pantone® gamut. The Nozomi also meet the demanding color standards of Fogra, G7 and GRACoL, ensuring color consistency throughout the digital printing process and with other printing methods.





Innovation that goes right to your bottom line.

Digital inkjet printing isn't intended to do exactly the same jobs that are being done with conventional printing today. While you can certainly convert some of your production to digital, and this will benefit many of your current jobs, inkjet printing opens up opportunities with new applications and new added value capabilities that conventional printing simply cannot do.

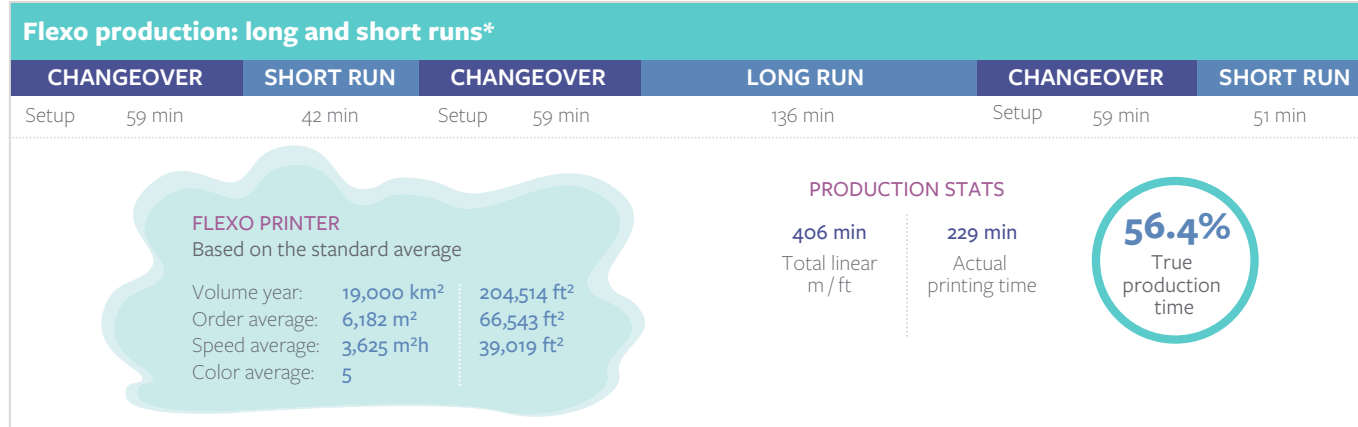
High-quality, full-color printing, variable data printing solutions, and unique white ink will allow you to take on premium-margin jobs and new business opportunities, such as regional campaigns, promotions and personalization. What's more, digital inkjet printing makes it possible to enter in new market segments and geographies, serving customers that are further away or with new products, such as displays and POS.



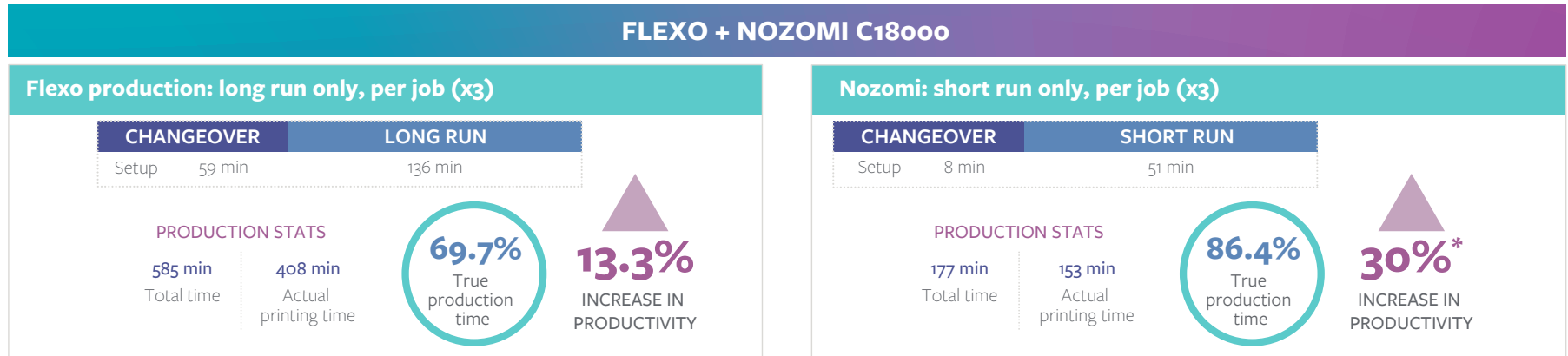
Flexibility and capability that add profitable capacity.

Adding digital capacity to your manufacturing plant means you have the flexibility and power to move unprofitable jobs off your existing equipment over to digital, freeing up capacity on your existing equipment to respond very quickly to any market demand. Digital inkjet printing also gives you the capability to meet orders for small runs, for jobs with more than three colors, for varied designs, and for premium boxes.

Process optimization: How to drive productivity with digital



*Real case focus in an integrated plant with a high-quality flexo printer.





Digital productivity – it's more than just print speed.

True productivity is determined by factoring in set-up time, print speed, and post process and finishing steps. Digital printing eliminates the need for plate making and post process lamination.

On the Nozomi C18000 Plus, set-up time is reduced to under six minutes with an average production print speed over 50 linear meters/min and downtime lower than 6%.

The result is blazing fast and efficient productivity.

Print production process steps

Nozomi C18000
Single-pass inkjet printer



Flexo (+3 colors)
Printing



Offset
Litho laminated



- Plate-making
- Make-ready / setup
- Print
- Post processing lamination and OVP
- Finishing

4-6 min
Initial setup time

2-8 min
Substrate changeover time

Yes
Cost-effective solution

Yes
Paper optimization

No
Highly specialized operator skills

No
Plates

EFI. Your partner in corrugated digital inkjet printing.



Adopting new technology may seem daunting at times and changing mindsets can be even harder. Selecting a partner who will help guide you through the entire process to maximize the full potential of LED digital inkjet printing is a key factor for success.

At EFI, we don't just sell printers and inks, we offer an entire solution. That is why we provide turnkey installation services that include the printer and any ancillary equipment needed, such as feeder, primer or stacking.

Our complete “360° Advisory Program



Our professional services help packaging manufacturers go digital in all stages and in all aspects. We're there with you every step of the way – during installation, the ramp-up process, and during regular and intensive use. And we partner you in daily operations, in maintenance tasks, in design and pre-press works, and in sales and marketing – with the only purpose to ensure that you get the most out of your single-pass LED digital inkjet printing investment.

Image quality just
got brilliant.

Productivity just
went turbo.

Capabilities just
expanded.

And your competitive
edge just got sharper.



Revolutionize your business in a single pass with the EFI Nozomi C18000 Plus digital press for corrugated packaging. It brings stunning image quality, productivity and uptime to your manufacturing floor in the form of six major enhancements. Together, they make the Nozomi C18000 Plus the single best LED technology for your packaging or display business goals. Our cross-functional teams understand the unique demands of corrugated and have leveraged our latest advances in printing and inkjet technology to create a revolutionary solution that will drive your business success now and in the future.

Six improvements that turn this Nozomi into a Plus.



1. Image quality

Smart Technology and Fiery® R5 combined create a more flexible and reliable system with drop-on demand control, color registration and PH alignment optimization to deliver the highest print quality.



2. Transport optimizer

Optimized warp control designed to print higher volumes profitably. Innovations driving higher speed and productivity will unlock new opportunities for the analog-to-digital transformation.



3. Software performance

Renewed software with new applications, such as nozzle compensation predictor, rush-proof and an enhanced UI, that results in reduced set-up times, errors, reprints and more.



4. Professional services

The Nozomi Digital Solutions Program provides the support and training to ensure you are successful with your investment in digital print.



5. Uptime maximizer

Tools such as Cloud monitoring, EFI IQ and new Fiery features will allow tracking of production and operator performance for making better decisions based on data.



6. On board quality agent

Artificial vision (AV) for accurate color adjustment, nozzle out and defect detection deliver optimum print quality and an efficient quality control process that increases operator satisfaction.



Visit efi.com to learn more about
the new EFI Nozomi C18000 Plus LED
digital inkjet printer for corrugated.

We develop breakthrough technologies for the manufacturing of signage, packaging, textiles, ceramic tiles, building materials add personalized documents, with a wide range of printers, inks, digital front ends, and a comprehensive business and production workflow suite that transforms and streamlines the entire production process, increasing your competitiveness and boosting productivity. Visit www.efi.com or call 650-357-3500 for more information.



Nothing herein should be construed as a warranty in addition to the express warranty statement provided with Efi products and services.

AutoCal, Auto-Count, Best Eye, ColorGuard, ColorPASS, ColorRight, ColorWise, Command WorkStation, Cretachrom, Cretaprint, the Cretaprint logo, Cretaprinter, Cretaroller, Digital StoreFront, Distancing Graphics, Divisional Graphics, DocBuilder, Dynamic Wedge, EDOX, Efi, the Efi logo, Electronics For Imaging, EPCount, EPPhoto, EPRegister, EPStatus, Estimate, FabriVu, Fast-4, FASTRIP, FASTDRIVE, Fiery, the Fiery logo, Fiery Compose, Fiery Driven, the Fiery Driven logo, Fiery DesignPro, Fiery Edge, Fiery Impose, Fiery ImageViewer, Fiery Intensify, Fiery JobExpert, Fiery JobFlow, Fiery JobMaster, Fiery Navigator, Fiery Prints, the Fiery Prints logo, FreeForm, GameSys, Hagen, InkIntensity, Inkware, IQ, iQuote, LapNet, Lector, Logic, MarketDirect StoreFront, MarketDirect VDP, MarketDirect Cross Media, Metrics, Metrix, MicroPress, Monarch, Monarch Planner, OneFlow, Optima, Optitex, Organizing Print, Pace, Pecas, Pecas Vision, PC-Topp, PressVu, PrinterSite, PrintFlow, PrintMe, the PrintMe logo, PrintSmith, PrintSmith Site, PrintSmith Vision, PrintStream, Profile®, Process Shipper, Prograph, ProGraphics, PSI, PSI Flexo, Radius, RIPChips, RIP-While-Print, SafeGuard Graphics, Spot-On, Spot Pro, Synchro 7, Technique, UltraDrop, UltraPress, UltraTex, UltraVu, UV Series 50, VisualCal, VUTEK, the VUTEK logo, and WebTools are trademarks or registered trademarks of Electronics For Imaging, Inc. and/or its wholly owned subsidiaries in the U.S. and/or certain other countries.

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