



**A New Era of Printing Technology Transforms  
Corrugated Packaging and Gives Manufacturers  
A Competitive Advantage**



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## OVERVIEW

Color inkjet printing lets manufacturers produce customized packaging that saves time and money in their production process.

Opportunities abound for today's small- and medium-sized manufacturers. Growth in e-commerce, combined with an increased demand for customized and versioning products puts small manufacturers in a strong position to compete.

To succeed, these manufacturers need resources that can keep up with their fast-paced, customer-centered operations. This is especially true regarding the packaging required to ship the products produced in this thriving marketplace.

In this white paper, we take a look at the developments that are driving new opportunities for manufacturers, and demonstrate how the next generation of printing technology ensures manufacturers can keep pace with these trends.

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**Part 1:** A New Opportunity Exists for Today's Manufacturers

**Part 2:** A New Era of Packaging Technology Supports the Modern Manufacturing Paradigm

**Part 3:** Printing Becomes Part of the Manufacturing Process

**Part 4:** One Manufacturer's Story: Taking control of package printing results in a 75 percent savings on production costs

**Part 5:** Improvements To The Operation

**Part 6:** Packaging and The Future of Manufacturing



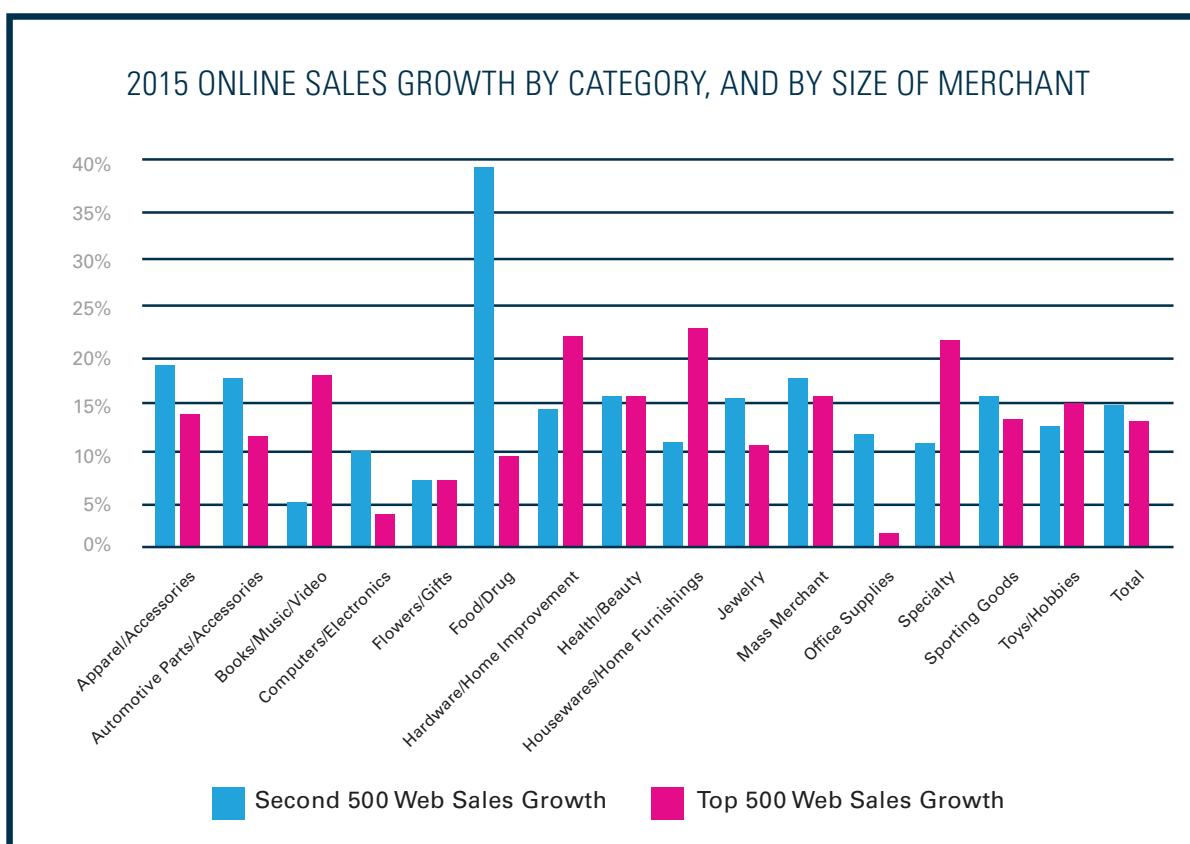
## PART 1: A NEW OPPORTUNITY EXISTS FOR TODAY'S MANUFACTURERS

The connection between the consumer and the manufacturer has never been closer. Online communication and e-commerce capabilities have shortened the distance between manufacturers and their customers. This close relationship has led to an increase in the demand and production of more customized products and packaging.

Small manufacturers are in a unique position to meet this demand for customization. As a result, they are experiencing unprecedented growth in their businesses.

Data from the [Internet Retailer 2016 Second 500 Guide](#) shows that small and midsized merchants are maintaining impressive growth rates. These merchants collectively grew their e-commerce sales by 15 percent in 2015. This is the first time that the small and midsized merchants have outgrown their much larger competitors.

### SMALL MERCHANTS OUTGROW THEIR LARGER COMPETITORS IN SOME KEY CATEGORIES



Source: [Top500Guide.com](#)

But with opportunity comes challenges.

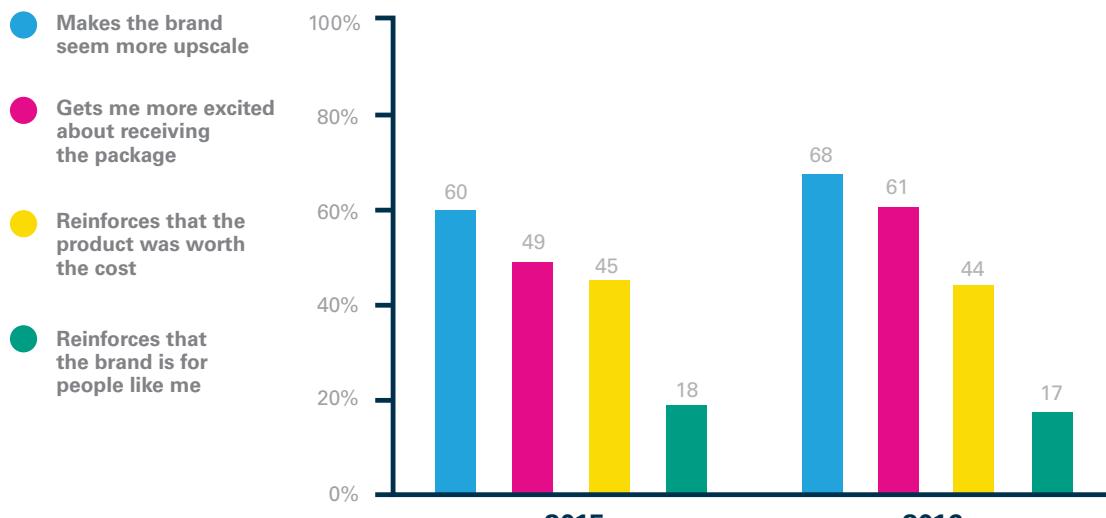
Unlike large manufacturers that produce large volumes of the same product, manufacturing customized products in small quantities means less predictability for the small manufacturer. As a result, these small manufacturers must run a just-in-time operation that can quickly and efficiently process, package, and ship orders.

Moreover, once that package is shipped, it then becomes the first physical connection a customer has with the manufacturer.

Therefore, the package must positively represent the brand and create a productive relationship with the consumer.

Research firm Dotcom Distribution surveyed 500 online shoppers to learn how packaging impacts the brand experience. Forty percent of survey respondents said the use of branded or gift-like packaging affects their perception of the company that shipped the item.

## HOW PACKAGING IMPACTS BRAND PERCEPTION



The same report found that packaging also plays a role in fostering loyalty. Forty percent of shoppers would be somewhat more likely or much more likely to purchase from a retailer that offered gift-like or personalized packaging. This is up from 29 percent in 2015.

## PART 2: A NEW ERA OF PACKAGING TECHNOLOGY SUPPORTS THE MODERN MANUFACTURING PARADIGM

Fortunately, advances in print technology give manufacturers the capability of producing just-in-time packaging for their just-in-time operations.

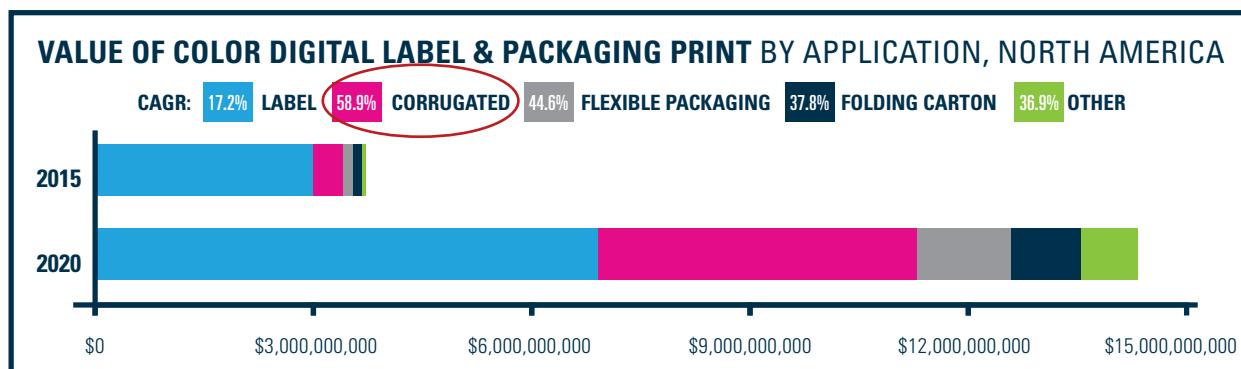
Until now, manufacturers have relied on intermediaries like label converters and packaging suppliers to produce their packaging. However, these packaging intermediaries often use older analog printing machines. This printing method requires the manufacturer to provide long lead times and order large volumes of corrugated boxes.

Once produced, these boxes must be stored, inventoried, and managed. When there is a change to the package - as there often is - the excess packaging ends up as expensive scrap.

### Transforming Packaging Production

Today, digital color printing solutions are being used to transform the package production process. These new digital printing solutions are replacing old analog package printing solutions and enabling corrugated packaging to be produced in a fast, efficient and personalized way.

As a result, there has been an explosion in digital color printed corrugated packaging. According to market research firm InfoTrends, from 2015 to 2020 the digital color corrugated market is expected to grow by over 58 percent.



Much of this growth is due to developments in single-pass digital color inkjet printing technology. A report titled "The Future of Global Inkjet Printing to 2021" prepared by Smithers Pira, projects that the Worldwide Inkjet Packaging is a \$2 Billion market that is growing at 17 percent per year.

These single-pass digital color inkjet solutions – like the ones powered by Memjet inkjet technology – print extremely fast, firing millions of drops of ink per second to produce exceptional quality at a low cost. The printheads remain rigid over the package, so they can be flexibly assembled to create various widths and system speeds depending on the type of packaging needed. A plain corrugated package only has to pass once underneath the fixed printheads to lay down all of the colors and details required.



### PART 3: PRINTING BECOMES PART OF THE MANUFACTURING PROCESS

These new-era printing solutions can now go beyond the printer's operation and easily integrate directly into any manufacturing process.

To start, full color digital packaging printers are easy to set up and take up only minimal space, so they can fit into even a small manufacturing operation. The solutions are easy to operate, so there is no need for the manufacturer to hire additional employees.

Once the printing solution is up and running, manufacturers can immediately start producing customized boxes whenever the business

needs it. Manufacturers can buy one style of corrugated box and customize it based on orders and the needs of the business.

This means that manufacturers no longer need to print and apply labels manually because all relevant product and order details are printed directly on the package.

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Manufacturers can go from using labels to customize boxes that look like this:



To printing those same images directly on the panels of the package to produce a highly customized box like this:



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This flexibility streamlines the order process and gives manufacturers an enhanced ability to manage the multiple SKUs that are a part of their process and to meet the demands of their business.

Best of all, by controlling the package printing process, the manufacturer saves money because they are not forced to purchase and manage large quantities of shipping materials that could end up as scrap.



## Delivering What Buyers Demand

The features and functionality of these next generation full color digital printing solutions make them uniquely qualified to improve packaging production.

This was the finding of a 2015 report done by the Tag and Label Manufacturers Institute (TLMI). The chart below details these results, showing what packaging buyers are demanding - and what full color digital printing solutions can deliver:

ADVANTAGES OF DIGITAL PRINTING FOR END-USERS/PACKAGING BUYERS	HOW END-USERS/PACKAGING BUYERS RANK IN DIGITAL ADVANTAGES
SHORTER DELIVERY TIMES	#1
PRINT QUALITY	#2
ABILITY TO PRINT SHORTEST RUN LENGTHS	#3
LESS PACKAGING OBSOLESCENCE	#4
MORE PROMOTIONAL PACKAGING	#5

*Source: 2015 TLMI Label Converter Survey*

As the research shows, manufacturers want to be able to quickly produce full color, high quality, short-run, personalized packaging with minimal waste. By being able to consistently deliver on each of these categories, digital color inkjet printing solutions are becoming the go-to resource for today's manufacturers.

## The Power of Personalization

These print solutions also enable the manufacturer to create the highly personalized packages that their customers demand.

Each box may be printed with variable capabilities, so the manufacturer can change the information often, updating it with personalized messages like images, seasonal communications, and greetings—whatever information will help create a connection with the customer.



## PART 4: ONE MANUFACTURER'S STORY: TAKING CONTROL OF PACKAGE PRINTING RESULTS IN A 75 PERCENT SAVINGS ON PRODUCTION COSTS

"We chose the Xante Excelagraphix 4800 because it could easily fit into our operations. The printer was delivered in the morning, and by the end of the day, we were printing our own boxes. The integration into our business was seamless." -- Judy Wagner, Chief Marketing Officer at All Sports Manufacturing

Based in Pensacola, Florida, All Sports Manufacturing is a company that is leading the development and design of custom golf cart lift kits and accessories. The company operates a 48,000 square foot, state-of-the-art manufacturing facility.

All Sports Manufacturing produces hundreds of SKUs for the golf cart accessories and parts they manufacture.

Previously, All Sports used an ecosolvent wide format vinyl printer to produce the labels

needed to support their extensive line of products and co-branding requirements.

These labels are typically limited to one or two panels per label, so a five-panel box would require multiple labels. Moreover, applying these labels was labor intensive, time consuming, and prone to application error.

To save time and money in their production process, All Sports Manufacturing purchased the Xante Excelagraphix 4800.

Powered by Memjet's single-pass digital color printing technology, the Excelagraphix 4800 lets manufacturers create a professional, four-color branded look with variable data capabilities for their small volume SKU's, while being able to accommodate personalization and customization.



The Xante Excelagraphix gave All Sports the resources it needed to print these images directly on the box panels. This means that the entire box can contain branding, full color graphics, variable information -- anything that helps to foster better order processing and enhanced communication with the customer.

Not only are the boxes more attractive and effective, All Sports saves on time and cost while reducing waste. Below is an example of the label costs savings.

Says Judy Wagner, Chief Marketing Officer at All Sports Manufacturing, "We chose the Xante Excelagraphix 4800 because it could easily fit into our operations. The printer was delivered in the morning, and by the end of the day, we were printing our own boxes. The integration into our business was seamless."



Basic Specifications	Wide Format Ecosolvent	Xante Excelagraphix
Print Size	22.5" x 53.25"	22.5" x 53.25"
Print Resolution	360x720 dpi	1600x800 dpi
Print Speed	150 sq ft per hour	3,600 sq ft per hour
Production Speed	18 prints per hour*	325 prints per hour**
<b>COST</b>		
	Wide Format Ecosolvent	Xante Excelagraphix
Consumables	\$0.16 sqft = \$1.33	\$0.42 (ink and heads)
Adhesive Vinyl	\$0.19 sqft = \$1.58	N/A
Total Cost @ 8.32 sqft	\$2.91	\$0.42
<b>POST PRINT PROCESSING</b>		
	Wide Format Ecosolvent	Xante Excelagraphix
Finishing	Requires additional labor to apply label to corrugated.	Direct print to corrugated, no further labor needed.
Waste	Large labels are very hard to hand apply causing reprints and re-handling if misapplied.  Labels can peel from handling and temperature variations in warehouses, causing reprints and replacements.	Direct print results in minimal waste.  Direct print is not affected by warehousing or temperature change. Direct print is also scratch resistant providing a more durable print.
Footnotes	* Rated speed from mfg, does not include additional time to load/unload material and printer maintenance cycles	** Actual production speed, includes operator sheet loading time and automatic printer maintenance cycles



## PART 5: IMPROVEMENTS TO THE OPERATION

The Xante Excelagraphix 4800 enabled All Sports Manufacturing to do away with labels entirely. Now, all required information is printed directly on the boxes, including product pictures, all SKU information, branding requirements, bar codes, and even customer installation instructions.

With direct printing, All Sports now stocks a small number of boxes to cover a large number of SKUs, saving valuable warehouse space. As a result, All Sports has saved 75 percent on production costs, and has greatly improved operations by minimizing waste and storage.

Judy Wagner concludes, "Using the Xante Excelagraphix 4800 means we can print one, 30, or even 800 boxes when we need them.

The imprint on the boxes can be changed or co-branded on demand with little to no waste. We're also pleased with the professional look of the boxes – some of our distributors even display them in their showrooms."

All Sports Manufacturing is a prime example of how easy and affordable it is for manufacturers to bring all or a portion of their corrugated package printing in-house.

## PART 6: PACKAGING AND THE FUTURE OF MANUFACTURING

By using new technology, creating close customer connections, and delivering customized products, the past ten years have meant positive growth for small manufacturers.

The question today is, "Can this level of growth and opportunity be sustained?"

It can, if manufacturers are able to think differently about the processes in their operations - especially their packaging.

Today's digital printing technology lets the manufacturer control their packaging the way they control the rest of their business. No longer ruled by expensive, third-party packaging suppliers, manufacturers are now able to dynamically create, adapt and produce the personalized packaging they want, exactly when they need it.

These revolutionary color inkjet technologies mean manufacturers can create and sustain their unique brand identity for all the products they sell, even low volume products that require shorter runs. Leveraging consistent brand identity across all products keeps existing customers satisfied, and can even attract new customers by adding value to the brand and the product.

The opportunity for growth is unlimited. That's the power of today's digital color inkjet printing technology.

We invite you to learn how these solutions can impact your business.  
Visit us at [www.xante.com/packaging](http://www.xante.com/packaging) or email us at [eg4800@xante.com](mailto:eg4800@xante.com).

