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# packagePrinting

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## **Advantage: VDP**

*Before deciding to make the foray into variable data printing, converters should look at their processes and determine if and how variable data printing fits into their businesses.*

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Variable data in packaging comes in a variety of forms resulting from an assortment of needs. In some cases, the variable data might be beverage labeling indigenous to a geographic area or other targeted marketing materials. In other applications, the variable data comes in the form of 2D or traditional bar coding to help protect a brand against counterfeiting or diversion. And, in still other cases, the variable data exists as alphanumeric coding to authenticate promotional purchases.

Digital presses are the engines used to print variable data. "Digital print engines are the most compatible with variable data as they are designed to manufacture data-driven printed products," says Brad Lena, variable data consultant, PIA/GATF. Dan Briley, North American category manager, industrial products, HP Indigo Digital Press, adds that a digital printing press is most appropriate because "you get the highest quality to ensure the readability of the variable data, as well as a single-step workflow to ensure data integrity."

Coding processes include noncontact, such as laser and various types of inkjet including drop on demand, continuous, binary array, and thermal inkjet. Sean Skelly, director of marketing, Jetrion Industrial Inkjet Systems, says, "We're strong believers that UV inkjet printing is the most appropriate for variable data printing for a variety of reasons." These reasons include:

- Inkjet printing, as a technology, is a noncontact printing process, which is important when dealing with the wide variety of substrates and packaging line configurations that confront package printers. In addition, UV inks adhere very well to a broad range of substrates.
- UV inks never dry in the printhead, making them less prone to maintenance.
- UV inks can be formulated to meet any specialized needs a package printer might have.

Contact processes include thermal transfer. Which process converters choose depends on the application. "The way you pick the right technology for the application," says Jack Walsh, market manager, Brand Protection Solutions, Videojet Technologies Inc., "is [to consider] print quality, print speed, print height, and contrast. You look at all the factors that are involved and make the recommendation." However, before deciding to make the foray into the variable data printing arena, converters should take a look at their processes and

determine if and how variable data printing fits into their businesses.

### **Where it is used**

“Any type of application that requires a package printer to print a large variety of packaging in short runs is a strong candidate for variable data printing,” says Skelly. He cites the industry’s increasing need for a variety of product versions as driving the need for short runs. “Examples include language localization, ingredient changes, lot tracking, personalization, and test marketing,” he says.

Bryan Bell, general manager, Digital Print, adds, “Almost the whole manufacturing world is heading down the road of needing to mark products at the time of packing. ISO and traceability are demanding it.”

Dennis Kallaher, president, Degrava Systems, cites prime labels, private labeling, price tags, promotional labeling, or packaging applications that have specific information which may be dated or subject to change as potential variable data printing applications.

Briley cites the following applications for variable data printing that is specific to packaging:

- Security printing for brand protection or serialization of product;
- Safety tracking of products to ensure authenticity and protect consumers from counterfeit products;
- Unique coding of products for track-and-trace through the supply chain;
- Consumer products labeling to ensure genuine products (high-value products, automotive, aircraft, cosmetics, software, apparel, and ink cartridges); and
- Tax/tariff collection tracking (for example, cigarettes or liquor).

Walsh adds, “The beverage industry, the cereal industry, pharmaceutical, snack, confections, candies—all of those industries are using our systems at the converter level.” He also notes that every brand is at risk, whether it’s a counterfeit, theft, or diversion risk. “We’ve touched every industry,” he says.

### **I’m in, where do I start?**

Unless package printers are already using a digital press in their shops, there are obviously equipment purchases converters will need to make to integrate variable data printing into existing processes. More important, however, packaging companies have to change their mind-set regarding digital printing.

“They need to embrace digital printing,” says Filip Weymans, global business development manager, labels and packaging, Punch Graphix International nv. “He adds that when package printers have that mindset and determine that variable data printing will benefit their businesses, they’ll need to acquire some

tools determined by the markets on which they want to focus. "For example, if you want to focus on the basic things like adding on variable bar codes, adding on sequential numbers, [or] images, you don't need to acquire any specific software tools because these tools are provided with the Xeikon machine," comments Weymans. "If you're going to go into more high-end variable data packaging solutions, then you need to have a database-driven software tool that allows you to generate these variable images."

"Digital printing is by far the most flexible way to provide instant variable data printing," says Jeff Lewis, media relations manager, North America, Agfa. "No film or platemaking is involved and each copy or page can be totally unique."

Walsh states, "There's a set of common concerns that [converters] always have. How is it going to affect uptime? What is the cost per item going to be? What do I do if there's a problem? But those are the same questions they ask themselves any time they add anything to their process."

An equipment purchase is inevitable. "They will need to purchase digital equipment that supports the variable data process," says Tali Witenberg-Oren, marketing communications manager, Matan Digital Printers Ltd. Briley notes that converters may require additional front-end prepress to generate/track the variable data content. "[They] need an entire plan for controlling/maintaining/securing the database," he says.

Kallaher states that "package printers need to purchase a digital form of printing equipment, supported by a graphic designer/prepress technician."

### **Speaking of prepress**

In some cases, manufacturers provide complete turnkey solutions, so any prepress considerations are part of the overall system purchase, and nothing needs to be added to existing processes. "This is a new era for most packaging producers and consumer products goods companies," says Skelly. "However, these systems and processes are off-the-shelf in that they are used today in direct mail and other digital printing processes."

"All variable data systems come with their own prepress layout software," says Bell. "It is all very easy to learn and use. Anyone with a little computer skill can be up and running in less than a day. If data files are needed, the systems are very accommodating to a large range of file formats."

Walsh adds, "We spend a lot of time during prepress looking at [how converters will have] their packages configured on their roll or sheet so that we can register print accurately." Software-wise, he says, the converter doesn't have to worry about that. "It's part of the system and that's something that's figured out before the converters get involved, so they just need to look at how they are going to print versus anything else."

In terms of unique requirements, Kallaher asserts that converters should have "a well-rounded prepress technician/graphic artist who is knowledgeable of both PC

and Mac platforms, graphics composition, and variable data programs.”

Weymans notes that if converters are going to get into variable data printing, “they really need to understand that it’s more than printing alone. [They] really need to be able to manage data.”

### **The VDP advantage**

The advantage of variable data printing is straightforward according to Walsh. “It’s the fact that you can print a unique code on every item at the item level, as opposed to the case level or the pallet level. That is really the strength of the solution.” Although there are other ways to protect a brand (using holograms, developing intricate packaging, using special inks, employing color shifting, or putting tamper-evident pieces on the package), in some cases, the only way to truly protect the brand is to use a digital code. “In the end, if they want to track that product, or have visibility in the supply chain, or immediate authentication, they’re going to have to put a digital code on the package,” says Walsh.

“One important point that both the CPGs (consumer product goods companies) and the packaging producers need to be aware of is the effect of VDP [on] the supply chain,” notes Skelly. “Today packaging is often the bottleneck for launching new products. Changes to packaging can literally take months to work through the supply chain. By utilizing variable data printing, the waiting times for new packaging to be produced can drop by well over 75 percent. In addition, inventory wastage in packaging materials becomes a thing of the past.” He believes that the cost savings, inventory reductions, supply chain improvements, and additional value add of variable data printing will make UV inkjet a common technology for package printers today and in the near future.

However, Bell cautions converters that no single variable print technology can do everything for every application. “Find a company that offers a large range of variable data printers so you will end up with the best fit for your application,” he says. “Call on a company with a long, proven track record to help you fit the right system for you.”

Lewis adds, “One should concentrate on the main requirements of variable data needs for package printing and choose a very efficient workflow specifically targeted to this.”

Kallaher concludes, “Variable data printing is definitely a growing segment of the packaging business, and as digital printing continues to grow, so will the need for variable data printing in the packaging business.” ***pP***

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