



WHITE PAPER

LABELS & FLEXIBLE PACKAGING

TRENDS FOR 2020 AND BEYOND

JULY 2020





contents

Document

Introduction2

Industry Overview2

 Flexible Packaging..... 2

 Labels 3

Five-Year Outlook 4

 Flexible Packaging..... 4

 Labels 4

Digital Technology: Drivers and Inhibitors5

Additional Opportunities for Growth5

 Self-Adhesive Labels5

 Opportunities for Tangential Work..... 6

 The Sustainability Story7

Where Does HP Fit In?8

The Bottom Line9

Figures

Figure 1: Top Factors Driving the Purchasing Decision2

Figure 2: Flexible Packaging Printer Placement Forecast4

Figure 3: Color Digital Label Printer Placement Forecast4

Figure 4: HP Indigo's 13" WS6000 EP Web (Left) and 30" 20000 EP Web (Right)8

Figure 5: HP Indigo's 6K Digital Press (Left) and 25K Series 5 Press (Right)9



Introduction

Although we're only a little more than halfway through 2020, few would argue that this has already been a year unlike any other. In addition to marking the start of another new decade, early 2020 saw the rise of a global pandemic. COVID-19 has brought a great deal of uncertainty to our world, and questions continue to swirl about its effects to humanity, the economy, and many industries. Although many market segments have been hit hard, the pandemic has actually proved beneficial to the labels and flexible packaging industries.

To truly capitalize on the opportunities within labels and flexible packaging, it is important for printing and converting companies to evaluate their current manufacturing methods and consider how they can get involved in digital printing. Digital technology is a necessity for any print service provider (PSP) or converter that hopes to take advantage of today's growing number of short-run orders. Digital printing makes it possible to meet high-value customization requirements, streamlines the supply chain, reduces warehousing requirements, and enables faster time to market. This white paper explores the trends and ongoing market conditions that are expected to affect the labels and flexible packaging industries in 2020 and beyond.

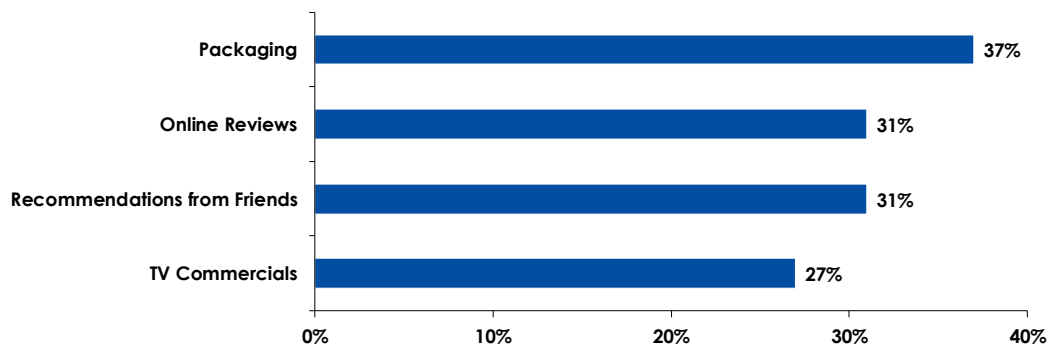
Industry Overview

Flexible Packaging

Packaging can have a huge influence on the success of a product. Businesses are seeking innovative and engaging packaging solutions to ensure that their products stand out from the competition. According to research by Globe Packaging, packaging was the top factor driving the purchasing decision—beating out online reviews, recommendations from friends, and television commercials.

Recent research from Globe Packaging indicates that packaging is the top factor driving the purchasing decision.

Figure 1: Top Factors Driving the Purchasing Decision



Source: Globe Packaging; Recreated by Keypoint Intelligence

Rapid technological developments and shifting expectations are causing dramatic changes in the flexible packaging industry. Data-driven print for packaging that enables localization, customization, and even personalization can be paired with Augmented Reality (AR) experiences to enable interaction with a package and its contents. Flexible packaging is a delivery mechanism for all types of products, regardless of whether they have traditional or



With the variable data and graphics of digital printing, new packaging designs can be fast-tracked and every piece can be unique.

more modern requirements. It is also one of the few applications that is not being displaced by electronic technology. Flexible packaging provides the medium for communicating brand messaging while also offering an opportunity for digital (online and mobile) interaction. As an added benefit, today's consumers are intrigued by well-designed and innovative packaging!

Initially, flexible packaging was a challenge for digital printers. It used thin, unsupported film media that was problematic for digital presses, and there was often a need to reverse print or surface print. Digital flexible packaging has become a game-changer. It creates the opportunity to fast-track new package designs, eliminating any production issues before they occur. Digitally printed flexible packaging now delivers crisp registration and rich graphics that rival gravure quality. Extended color gamuts and a variety of substrate and coating options give products the shelf presence they deserve. Promotional, seasonal, highly targeted, and test market packaging can now be produced efficiently. With the variable data and graphics of digital printing, every piece can be unique. Finally, low-migration inks used with a number of digital printing solutions meet FDA guidelines for safe printing of primary food packaging.

Digital color printing is starting to become a key print method for packaging as marketers and brand owners seek the benefits of shorter runs and additional versioning capabilities. Additionally, because digital technology represents only 1% of total flexible packaging production, there is an enormous opportunity for future growth.

Labels

Digital label printing is used in product packaging for almost all industries, including cosmetics, food & beverages, pharmaceuticals, private labels, and even marijuana in places where cannabis dispensaries have been legalized. The global digital label printing market has experienced healthy growth, largely fueled by rising concern among consumers about the legitimacy of products they buy due to widespread counterfeiting of cosmetics, food and beverages, fast-moving consumer goods (FMCG), and pharmaceutical products. In parallel, marketers and brand owners are focused on time-to-market for new products as well as the proliferation of Stock Keeping Units (SKUs).

Manufacturers are opting for new digital packaging and labeling technologies to address changing customer dynamics. Digitally produced labels are expected to become even more prominent as prices for materials come down, substrates expand, and specialty inks become more readily available. About 5% of labels with color graphics are produced digitally at this time, but there are growth opportunities in analog-to-digital conversions based on the increase in short-runs and customization.



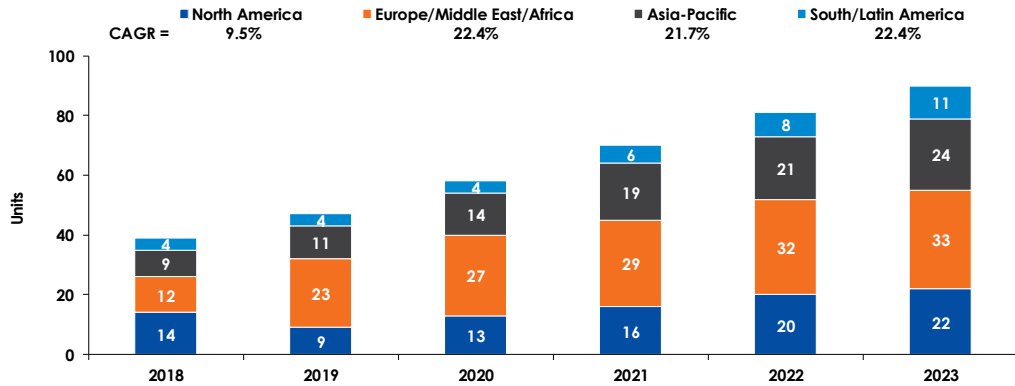
Five-Year Outlook

Flexible Packaging

Flexible packaging and digital label printers are expected to experience healthy placement growth between 2018 and 2023.

On a global basis, placements of flexible packaging printers are expected to rise from 39 units in 2018 to 90 units in 2023, demonstrating a compound annual growth rate (CAGR) of 18.2%.

Figure 2: Flexible Packaging Printer Placement Forecast



Source: Color Digital Flexible Packaging Printer Market Forecast, Keypoint Intelligence 2019

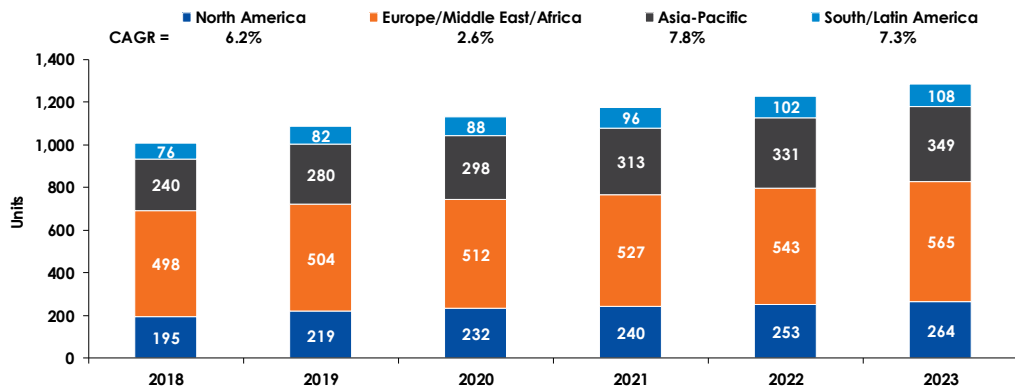
Global equipment revenues for these printers are expected to increase from \$59 million in 2018 to \$90 million in 2023, marking a CAGR of 8.8% over the forecast period.

Labels

Global placements of color digital label printers are expected to rise from 1,009 units in 2018 to 1,286 units in 2023, demonstrating a compound annual growth rate (CAGR) of 5.0%.

Placements for these types of printers are much higher than digital flexible packaging printers, but the growth trajectory is lower.

Figure 3: Color Digital Label Printer Placement Forecast



Source: Color Digital Label Printer Market Forecast, Keypoint Intelligence 2019

Equipment revenues for color digital label printers are expected to increase from \$467 million in 2018 to \$584 million in 2023, marking a CAGR of 4.6% over the forecast period. As is the case for placements, total revenues for color digital label printers are higher than flexible packaging printers but overall growth is lower.



Ongoing technological advancements and the increasing demand for short run printing point to growth for digital printing of flexible packaging and labels.

Digital Technology: Drivers and Inhibitors

There are a few factors contributing to the growth of digital flexible packaging and labels. For one thing, more brands are working to “mass customize” their products. For another, brands and converters alike require increased operational efficiency. There are also many helpful tools available to today’s technology suppliers, including:

- ◆ Workflow tools and powerful RIPs to manage gangs of short runs
- ◆ Variable data printing (VDP) software to facilitate personalization, serialization, etc.
- ◆ Improved finishing technologies like fast curing lamination

Just as some factors are driving the growth of digitally printed flexible packaging and labels, there are some inhibitors. These include:

- ◆ A limited number of converters
- ◆ The productivity of existing digital installations
- ◆ An excess capacity of conventional presses
- ◆ Ongoing improvements to analog presses
- ◆ The cost of digital supplies

Despite these inhibitors, ongoing technological advancements and the increasing demand for short run printing point to growth for digital printing of flexible packaging and labels. As noted earlier, digital represents a very small portion of overall print volumes for flexible packaging and labels. As a result, there is much room and opportunity for future growth.

Additional Opportunities for Growth

Self-Adhesive Labels

Businesses like IMS Labels (Dublin, Ireland) specialize in the design, manufacture, and supply of label solutions. With today’s printing technologies, the application opportunities for these self-adhesive labels are limited only by the imagination. Businesses can use these labels to creatively communicate with and inform customers and prospects in virtually any industry—retail, healthcare, education, automotive, technology—the list goes on and on. Furthermore, digital printing makes it possible for these labels to be printed on demand. This means that short runs of labels can be created for holidays, regional events, trial applications, or limited time offers. In addition to presenting content in new and creative ways, businesses now have the option to create personalized labels for audiences of one. Consumers, too, can implement these labels for a similarly countless array of uses at home, in the office, or for small businesses.



Although many types of businesses have experienced revenue declines and lost opportunities due to COVID-19, the labels and packaging industries have been able to benefit from the pandemic.

Opportunities for Tangential Work

The labels and flexible packaging industries have long been associated with increased opportunities for tangential work. Firms that have historically created labels or packaging for very specific applications have more options for branching out than ever before. Perhaps the timeliest example of this is the ongoing COVID-19 situation. For instance, plenty of brand owners were supplying labels to vertical industries (e.g., healthcare, retail, personal care, education) before the pandemic unfolded. Now, as the economy starts to reopen, brand owners are finding that these same verticals have a sudden, strong need for additional types of labels that can assist with social distancing, touchless transactions or check-ins, wayfinding, or foot traffic control. As a result, it is only natural that so many label manufacturers are attempting to capitalize on this opportunity.

Immediately following the coronavirus outbreak and subsequent quarantine, a spike in online purchases of essential goods caused a subsequent spike in the demand for e-commerce shipment packaging (e.g., protective/securement packaging, corrugated cardboard, flexible padded pouches, protective inner packaging). A growing focus on improving the shelf life of food and beverages is driving the demand for flexible packaging. Flexible packaging products like plastic wrappings and protective pouches enable manufacturers to keep their products safe for longer, reducing waste. Some market players have also developed resealable solutions so consumers can better close their packages and preserve/protect the contents between uses.

Eat-in establishments were temporarily closed for dining at the start of the pandemic, but most continued to offer takeout, pickup, and/or delivery services. This, too, increased the demand for packaging that would enable the safe transport of food and beverages. Although retail locations and dining establishments are starting to reopen, many people remain hesitant about returning to public areas. As a result, the demand for e-commerce and restaurant packaging will likely remain elevated for quite some time. Packaging is a tangible way for businesses to connect with consumers in their homes, so impressions are still being formed even if people aren't venturing out to establishments.

Within the healthcare industry, some packaging manufacturers are also positioning themselves for growth. The demand for materials used in COVID-19 diagnostic test kits has accelerated, increasing the need for collection devices (e.g., vials, closures) as well as pipettes and cassettes. Additionally, the demand for N95 and non-surgical face masks has skyrocketed among consumers and businesses on a global scale. Many businesses within the labels and flexible packaging industries have therefore shifted into the tangential production of face masks, shields, and other personal protective equipment (PPE) supplies.

Even though a great many businesses have experienced revenue declines and lost opportunities because of COVID-19, savvy players within the labels and flexible packaging



industries have largely benefitted from the pandemic by focusing on the tangential opportunities it has presented.

The Sustainability Story

Although sustainability has always been an important issue for the packaging industry, COVID-19 has shifted the priorities of consumers and businesses alike. During the pandemic, concerns about hygiene and food safety seems to be taking priority over the sustainability of certain packaging substrates. In the recent past, many retail establishments and coffee shops had begun to encourage the use of reusable shopping bags and coffee mugs, but all of this changed when COVID-19 hit. Most of these same establishments have temporarily suspended any “bring your own” initiatives due to concerns about hygiene, contamination, and consumer safety. At the same time, however, survival rates of novel coronavirus vary based on packaging substrate—there would certainly be a great deal of interest in a packaging company that develops a cost-effective, sustainable substrate on which the virus has minimal viability.

The labels industry has made great strides in sustainability by reducing materials waste, reducing energy consumption, and better managing chemical disposal. For several years now, label companies have taken various steps to address the environmental concerns that face the industry. Certified paper stocks and other eco-friendly materials also play a role in helping label companies and buyers remain environmentally friendly by reducing energy consumption/waste, streamlining processes to improve efficiency, and recycling liner and label stock waste into new types of packaging material.

In relation to other packaging formats, flexible packaging offers a number of sustainability benefits throughout its lifecycle. These include lighter weight, easier transport, extension of product shelf life, reduced waste, and a high product-to-package ratio. Although the industry also faces some challenges (e.g., post-consumer packaging material collection and a lack of recycling options), flexible packaging vendors are developing new initiatives to manage its end of life. These include technologies to drive the collection and recovery of flexible packaging materials (e.g., auto-sortation, investigation of new materials like compostable and bio-based structures), enhanced processing technologies, and viable end markets for the recycled material.

Despite its challenges, the flexible packaging segment is expected to continue growing, largely due to the conversion from rigid to flexible packing. Demand within Industrial segment is also expected to contribute to growth in the flexible packaging market, and this is largely driven by bulk packaging, FIBCs, shrink/stretch films, bubble wraps, air pillows, and other flexible solutions that can be used for product protection. FIBC use is expected to accelerate due to increased demand for lightweight, sustainable, and convenient products.

There would certainly be a lot of interest in a packaging company that could develop a cost-effective, sustainable substrate on which novel coronavirus has minimal viability.



Several industry players are working to identify technologies that make the collection and sortation of flexible packaging waste more feasible and economically effective. Research into chemical recycling—which degrades mixed plastics into monomers that can be turned into new products—is also ongoing. In addition, waste-to-energy (WTE) programs that use the combustible energy from difficult-to-recycle plastics are becoming more widely used on a global basis. COVID-19 has only served to accelerate the focus on sustainable labels and flexible packaging.

Where Does HP Fit In?

Back in 2008, HP Indigo became the first major print manufacturer to incorporate flexible packaging capabilities on its electrophotographic label web printers. Digital technology works well for the adjacent application of labels, and the practice of digitally printing flexible packaging was born as a result. Until 2014, all digitally printed flexible packaging output was produced on HP Indigo's 13" electrophotographic web devices.

All of this changed in 2014 when HP Indigo launched its 30" 20000 EP web press, which was capable of producing 55,000 sq. ft./hour. To this day, the HP Indigo 20000 remains the only high-volume digital printer for flexible packaging that has been widely placed on a global basis.

Figure 4: HP Indigo's 13" WS6000 EP Web (Left) and 30" 20000 EP Web (Right)



Earlier this year, HP Indigo took its previous efforts a step further by introducing a raft of new technologies for digitally printing labels and packaging. All of these devices are designed to meet current and future market demands like improved time to market, the rise in craft, better shelf appeal, increased brand protection, and a commitment to sustainability. Introduced in March 2020, this new product series includes the following devices:

- ◆ The **6K Digital Press** accommodates more applications using higher opacity white for producing shrink sleeves. New inks include silver and fluorescents, as well as invisible red and green for better brand protection. New varnishes from industry partners offer enhanced mechanical durability.
- ◆ An upgrade to the above-mentioned 20000 digital press, the **25K Series 5 Press** delivers greater flexibility with two white ink stations. A frame extension from 729mm to 737mm



enables higher productivity, and a new slitter further expands the range of possible applications. This device fits into HP Indigo's Digital Pouch Factory concept, a <\$3 million investment that enables businesses to print, laminate, and form pouches.

- ◆ An upgrade to the HP Indigo 3000, the **35K Sheet-Fed Folding Carton Press** includes a redesigned inline primer and feeder, a redesigned paper path, and a redesigned Tresu coater (iCoat II) for better registration and accuracy. This device accommodates a wider range of applications as well as extended colour capabilities.

Figure 5: HP Indigo's 6K Digital Press (Left) and 25K Series 5 Press (Right)



With these devices and others in its new series, HP Indigo is working with the supply chain to develop recyclable and compostable options, particularly in the realm of flexible packaging. Sustainability credentials include the Green Leaf mark and certification from TUV Austria's "OK Compost" verifying that HP Indigo ElectroInks can be used as printing inks for packaging, and are recoverable through composting and biodegradation in accordance with leading standards. In addition, HP Indigo ElectroInks comply with leading food packaging regulations and are free of UV-reactive chemistries. All Indigo presses are also manufactured carbon neutral.

The Bottom Line

Rapid technological developments and shifting expectations are causing dramatic changes in the labels and flexible packaging industries, and HP Indigo is helping to lead the charge. Flexible packaging is a delivery mechanism for all types of products, regardless of whether they have traditional or more modern requirements. It provides the medium for communicating brand messages while also offering an opportunity for digital (online and mobile) interaction. As an added benefit, today's consumers are intrigued by well-designed and innovative packaging!

COVID-19 has only served to accelerate the focus on sustainable labels and flexible packaging, and HP Indigo's newest label & flexible packaging printers demonstrate a focus on recyclable and compostable options. Because the digital flexible packaging market is still in its infancy, early entrants can differentiate themselves from their competitors and capitalize on the emerging growth opportunity. HP Indigo's solutions offer a sustainable and efficient way to produce on-demand flexible packaging, and there has never been a better time to get involved!



author

**Eve Padula**

Sr. Consulting Editor
+1 781-616-2170



Eve Padula is a Senior Consulting Editor for a variety of Keypoint intelligence's consulting services. Her areas of expertise include business development strategies, customer communications, and wide format. She is responsible for developing and analyzing the text and charts for forecasts, analyses, research reports, and other types of deliverables. She also manages the writing, editing, and delivery cycles for many types of content.

This material is prepared specifically for clients of Keypoint Intelligence. The opinions expressed represent our interpretation and analysis of information generally available to the public or released by responsible individuals in the subject companies. We believe that the sources of information on which our material is based are reliable and we have applied our best professional judgment to the data obtained.