

Summer 2019

# Leading PRINT

1776

## Declaration of Independence

The Declaration of Independence written by Thomas Jefferson in 1776 stated that the 13 colonies of Britain, which are now the states of America, were independent from Britain itself. The Declaration of Independence represents the birth of democracy in America and is a significant milestone in the evolution of democracy because it contains the principle of self-governance.

## Hitting a Wall ... and Bouncing Back

Kevin Runbeck  
rebuilds his company  
on mission

1791

## Ratification of the Constitution

After many debates between the states, they finally agreed upon a new constitution which was written by the Framers in Philadelphia to replace the Articles of Confederation. The purpose of the constitution was to not allow the Federal government to take control of the whole nation. Three branches of government were created: Legislative, Executive and Judicial. It was significant to the evolution of democracy because the rule of law resided within it.

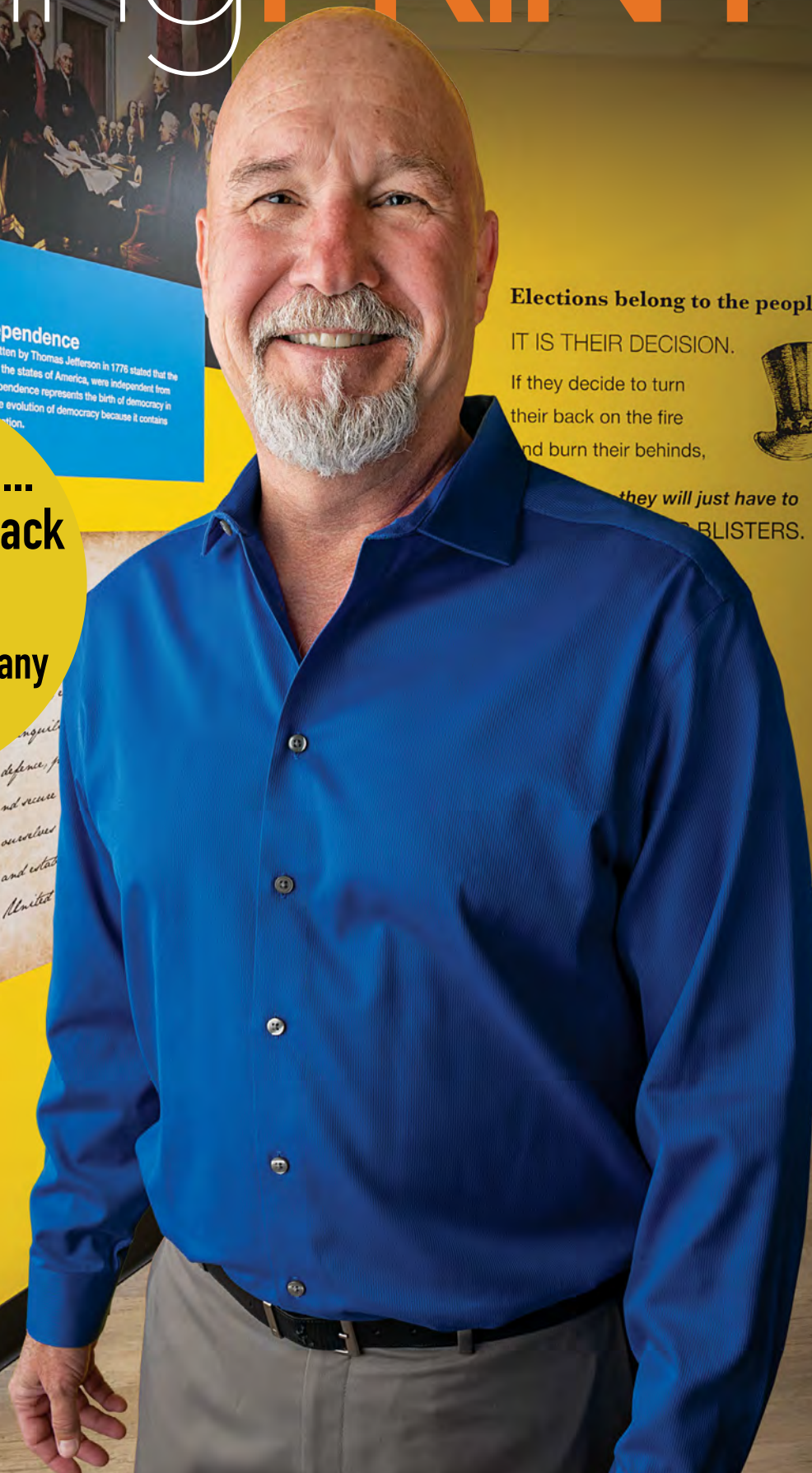
Elections belong to the people.

IT IS THEIR DECISION.

If they decide to turn  
their back on the fire  
and burn their behinds,



they will just have to  
BLISTERS.



# APTech**CONNECT**

## Are you a **PRINT** industry insider?

Want to know what's hot? What's not? Share what's on your mind?  
Join the APTech Connect Community Forum and be part of the conversation.

### DISCUSS

Participate in discussions with your peers and industry insiders

### CONNECT

Make connections with print industry leaders and experts

### ENGAGE

Be 'in the know' about industry happenings and events



Connecting the print industry at  
[community.PRINTtechnologies.org](http://community.PRINTtechnologies.org)

Access APTech Connect for  
free from your desk or on  
the go using the mobile app.

Summer 2019

## Publisher

Julie Shaffer

## Editor

Beth Renaud

## Design

Amazingly Creative, Inc.

LeadingPRINT magazine is published four times per year by the Association for PRINT Technologies.


**Association for  
PRINT Technologies**  
1896 Preston White Drive  
Reston, Virginia 20191  
(703) 264-7200

## Find us online

[printtechnologies.org](http://printtechnologies.org)  
[twitter.com/APT\\_tech](https://twitter.com/APT_tech)  
[facebook.com/APTtechorg](https://facebook.com/APTtechorg)  
[linkedin.com/company/  
association-for-print-technologies](https://linkedin.com/company/association-for-print-technologies)

LeadingPRINT magazine is a benefit of belonging to the Association for PRINT Technologies. To learn how to become a member, contact Pernilla Jonsson at [pjonsson@aptech.org](mailto:pjonsson@aptech.org).

Send feedback and story ideas to [jshaffer@aptech.org](mailto:jshaffer@aptech.org).

Please recycle this magazine. 

All rights reserved © 2019  
Association for PRINT Technologies

## Letter from



**Thayer Long**  
President, Association for PRINT Technologies

“Change” means to alter or transform something. But what does it really mean to implement change?

At APTEch, we have been living “change” for almost three years. But until recently, what we were doing was rearranging the deck chairs, essentially trying to do the same thing others were already trying to do. In that construct, we found we could only grow by *taking* from someone else — whether ideas, market share, etc. Sounds a lot like what the printing industry has been facing.

We made a conscious decision to try a different tack. I reminded myself I’ve never seen a company fail that developed and executed on a unique and compelling value proposition built on divergent thinking. So we are now focused on how to create something unique for the print industry, to go places others haven’t. We’re building something entirely new and let me tell you, it’s hard. It’s scary. It’s ambitious and chaotic — but it’s been incredibly rewarding, and we’re just getting started.

I love the stories LeadingPRINT brings to light in its pages. We continue to showcase industry innovation that happens as a result of a growth mindset, not merely because of a technological advancement or new gadget. Kevin Runbeck, Runbeck Election Services, reinvented his company in the face of tremendous adversity. JohnHenry Ruggieri, SunDance, builds fruitful customer relationships by continually finding a way to “yes.”

My recommendation, and that of the innovators profiled in this issue, is to seek and embrace disruption and divergence. Do what others choose not to do.

# DEPARTMENTS

Letter From the President ..... 1

Resources & Factoids.....4

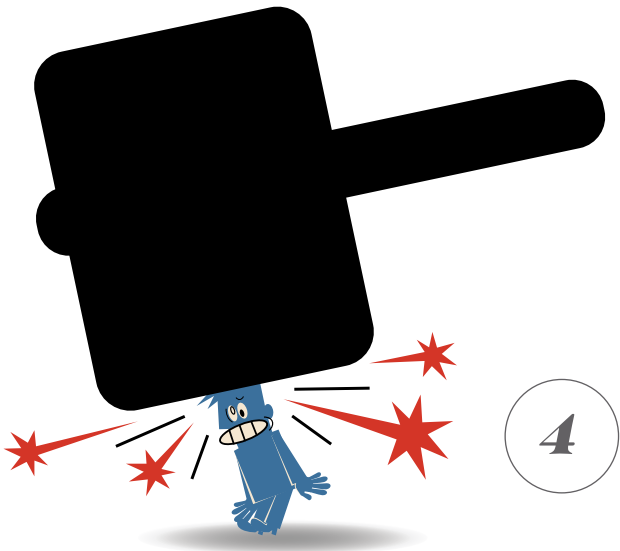
PrintStats.....14  
Industry Employment: Understanding the Real Picture

Industry Insights.....28  
iccMAX: The New Color Revolution

Industry Insights.....30  
A Grassroots Effort: Attracting Workers to Careers in Print

Government Affairs..... 31  
Capital Investment Is in Jeopardy

Economic Snapshot .....32  
Macroeconomic Outlook and Industry Analysis

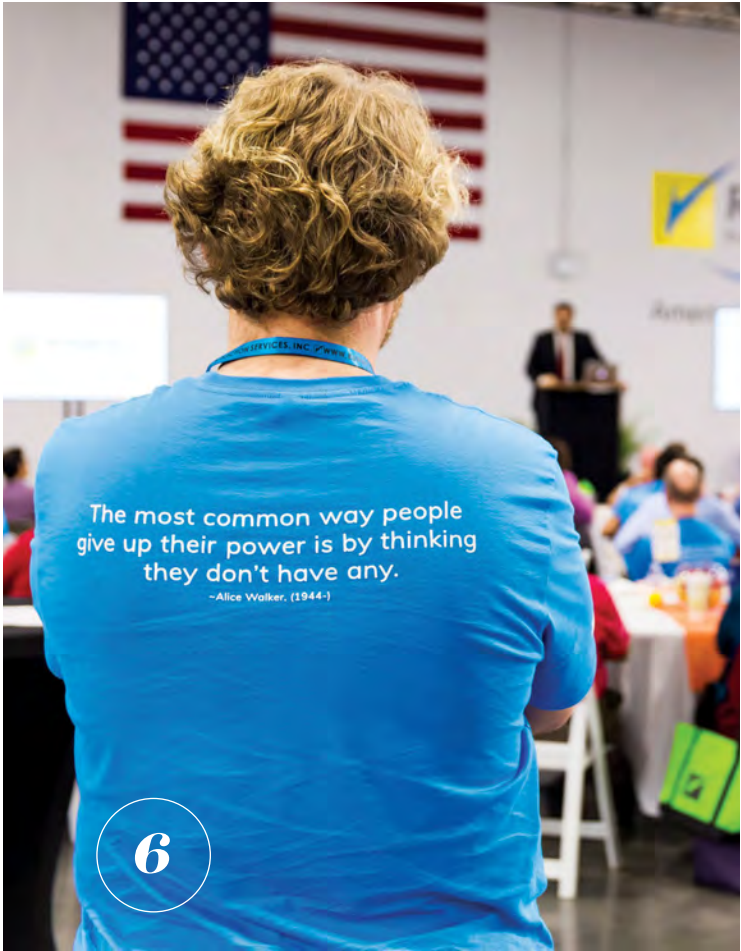


# FEATURES

Hitting a Wall ... and Bouncing Back .. 6  
Kevin Runbeck rebuilds his company on mission.

Are You Ready for Change?..... 16  
Industry change-makers — and PRINT® 19 seminar leaders — share their thoughts on why change is hard, but required for success.

We Eat Constraints for Breakfast..... 22  
SunDance succeeds ... one barrier-busting solution at a time.



# CONTRIBUTORS

## Mark J. Nuzzaco, Esq.

is a freelance contributor with advocacy experience in the printing industry.

## Kevin Runbeck

is chief executive officer at Runbeck Election Services, Inc.

## JohnHenry Ruggieri

is president at SunDance.

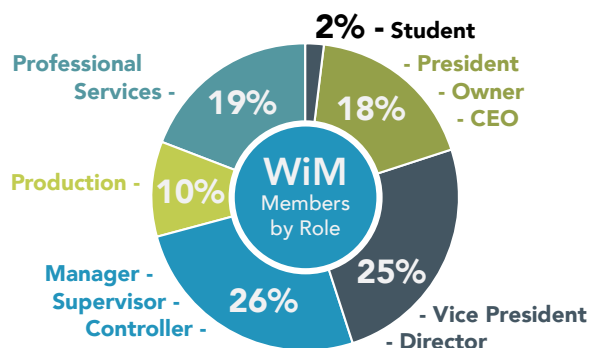


## Building Stronger Industry Education

You want to hire a young professional fresh from college, but you want to make sure he or she has received a solid education to prepare for a job in your company. Is there a way to know? That's one of the charges of the Accrediting Council for Collegiate Graphic Communications, Inc. (ACCGC), an independent body of industry and education professionals that certifies the quality of graphic programs. It's a tough, two-year process to gain accreditation, but programs that have attained it are known to graduate young adults well prepared to become leaders. In the U.S., there are now 12 accredited programs. ACCGC is a 501c3 non-profit association. [accgc.org](http://accgc.org)

## I am WiM

The gender makeup of the manufacturing industry is just 27 percent female, the lowest number of women since the 1970s. The mission of the Women in Manufacturing® (WiM) national trade association, founded in 2010, is to provide support and encouragement to women in this male-dominated sector. Today the association has over 2,000 members and welcomes women from every job function in the manufacturing sector, from the C-suite to the production floor. With 19 local chapters around the country, WiM provides a range of educational programs and events, and hosts a career center for job seekers and employers on its website. [womeninmanufacturing.org](http://womeninmanufacturing.org)



### Seeing is Believing

Infographics, a portmanteau of the words "information" and "graphics," is a way to visually convey information about a specific subject. So much of communication today is visual (note the rise of image-sharing apps like Instagram) that nearly three-quarters of marketers rely on visuals in their social media messaging. Consider using infographics in your own client marketing. Among the many free or inexpensive infographic makers are Canva, Visme, Piktochart, Easel.ly, and Venngage.



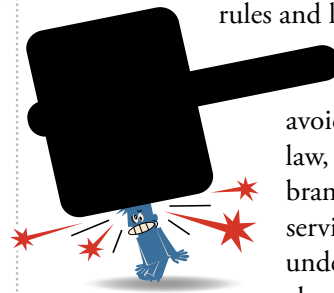
### Going Phishing

New data from Mimecast suggests that one in 61 emails now contains a malicious link. Don't get tricked into clicking a seemingly innocent link that may download malicious software onto your computer or give up your personal information. If something sounds too good to be true, it most likely is. (Just ask my Nigerian Prince.) [tinyurl.com/OnelnSixtyOne](http://tinyurl.com/OnelnSixtyOne)



## Mind Your Ps and Qs. Read the EULA

Typography is core to virtually everything designed for print and digital display. Yet while just about any designer or print professional can tell you which fonts they admire and which they despise (Comic Sans will likely be high on the second list), not many can tell you the licensing rules and laws that govern how the fonts' type can be legally used. To avoid running afoul of the law, designers, marketers, brand managers, and print service providers should understand the facts about fonts.



Today, most people use "font" and "typeface" interchangeably, but there is a distinction. A **typeface** is a set of letters, numbers, and special characters in a common design. A **font** is how a typeface is delivered for usage. Before digital typesetting, fonts came in the form of metal pieces stored in cases (capital letters were stored in the "upper case"). As most design is now done digitally, fonts are stored in digital files and qualify as software. We still call the companies that create and distribute fonts "foundries," although fonts are no longer cast in metal. As software, digital fonts can be copyrighted and are subject to copyright law, as well as to licensing governed by each foundry's End User License Agreement (EULA).

The EULA defines usage rights and obligations per font — like whether it can be used freely or licensed for a fee depending on usage. It is critical to be aware of the usage a license grants, especially when you want to use a font as part of a logo or other repeatedly used design, or exchange a font, including sending it with native files for printing.

Johannes Gutenberg, a professional goldsmith who created the first set of movable type, adapted a wine press to make the first printing press in about 1439.



Is anyone going to notice if you use a font in a way that isn't designated by the EULA? Ask confection company Haribo, which was hit with a \$150,000 copyright suit in 2017 over use of foundry Font Diner's "Stovetop" font in holiday candy packaging. Or Target, sued the same year for allegedly misusing Berthold Type Group's font, Akzidenz-Grotesk. When in doubt, mind the EULA. [tinyurl.com/DoINeedALicense](http://tinyurl.com/DoINeedALicense)

## Paper Fiber Shoes, Anyone?

The latest addition to sustainable shoe maker Allbirds' product offering is a line of shoes that incorporate ... wait for it ... wood fiber. The sneakers in The Tree Collection are made using a fiber from the cellulose found in the wood pulp of responsibly grown and sustainably harvested eucalyptus trees. And because the fiber is sourced from farms in South Africa that rely on rainfall, not irrigation, Allbirds says the material uses 95 percent less water than traditional materials. [tinyurl.com/AllbirdsMaterials](http://tinyurl.com/AllbirdsMaterials)

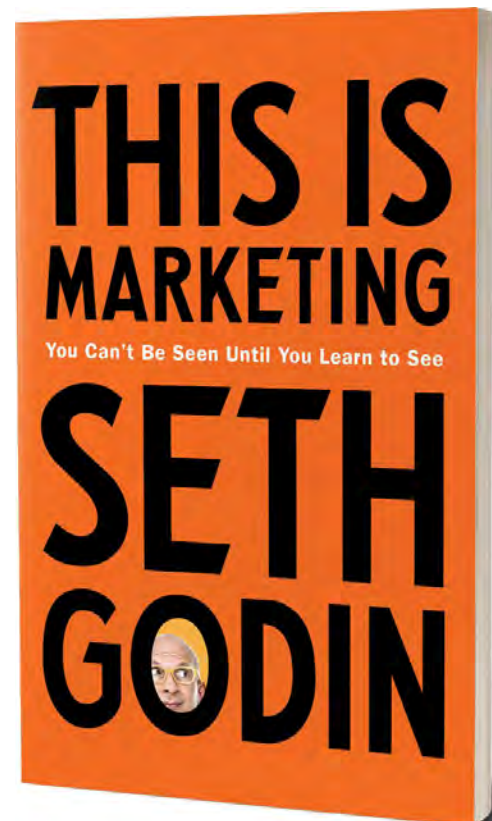


## This is Marketing

Seth Godin's latest book, "This is Marketing" is, at its core, a distillation of the key ideas Godin has evangelized over his 25-year career as an influential business writer. For example, he blends the idea (from his book, "Purple Cow") that word-of-mouth is the best advertising in this hyperconnected world with the notion (from "Tribes") that groups of like-minded people will rally around things they're passionate about. The result is a surprisingly simple, yet compelling argument that marketing is "a quest to make change on behalf of those we serve by understanding them — to be market-driven instead of being marketing-driven."

Rather than the scatter-shot, mass-marketing approach, Godin says it's critical to develop a sharp focus by targeting the smallest viable market for your product or service. These will become your tribe of "superfans" who will spread the word about you and your product and lead to organic business growth.

To hone your appeal to the smallest viable market, Godin offers a simple template:



**My product is for people who believe \_\_\_\_\_.**

**I will focus on people who want \_\_\_\_\_.**

**I promise that engaging with what I make will help you get \_\_\_\_\_.**

Godin cites the example of Slack, the business messaging and collaboration software. First marketed to the "neophiliacs" (those who love novelty, like new technology), about 8,000 adopted Slack as a new way of doing work. This small group spurred usage among colleagues organically — if you weren't on Slack, you were being left out of the conversation. This tension, the desire to be part of the group, was solved by signing in. The result is a tribe of superfans, namely eight million daily Slack users.

Ideas that spread, says Godin, are those that win. [tinyurl.com/GodinThisIsMrktg](http://tinyurl.com/GodinThisIsMrktg)

## Go Paperless, Or Not

Feeling pressured by vendors to "go paperless"? The Keep Me Posted campaign aims to help consumers retain the right to choose paper or digital communication. The non-profit Keep Me Posted North

America monitors service providers' digital communications policies to educate consumers and to urge companies to do the right thing by giving consumers free and viable choices. [keepmepostedna.org](http://keepmepostedna.org)



THE CONSUMER'S  
RIGHT TO CHOOSE  
[WWW.KEEPMEPOSTEDNA.ORG](http://WWW.KEEPMEPOSTEDNA.ORG)

# Hitting a Wall ... and Bouncing Back

Kevin Runbeck rebuilds his company  
on mission.

By Kevin Runbeck

**T**he only time we really learn is by making mistakes. And figuring out how to not make them again.

I heard this over and over when I was in Boy Scouts, and it has proven true throughout my life. It means that those “teachable moments” we all hear about can have real value if we pay attention to what they’re telling us.



1776

### Declaration of Independence

The Declaration of Independence written by Thomas Jefferson in 1776 stated that the 13 colonies of Britain, which are now the states of America, were independent from Britain itself. The Declaration of Independence represents the birth of democracy in America. It's an important event in the evolution of democracy because it contains the original democratic goals of the nation.

Elections belong to the people.

IT IS THEIR DECISION.

If they decide to turn  
their back on the fire  
and burn their behinds,



they will just have to  
BLISTERS.

1791

### Ratification of the Constitution & Bill of Rights

After many debates between the delegates of the states, they finally agreed upon proposing a new constitution which was written by the Constitutional Convention in Philadelphia to replace the Articles of Confederation. The purpose of the constitution was to not allow the Federal government to take control of the whole nation. Three branches of government were created: Legislative, Executive and Judicial. It was significant to the evolution of democracy because the rule of law resided within it.

We the

States, in

Union, do

Establish

Justice, for

and secure

ourselves

and relate

United

Kevin Runbeck. A timeline (1700s-1970s) on the corridor walls of the Runbeck facility traces the history of constitutional rights in America.



**“... if even a single ballot in an election is wrong, everyone from leaders in Washington, DC to the media to local election officials see it as the collapse of western civilization.”**

My company, Runbeck Election Services, has been in the election services business in one way or another for 40 years. Today, we're growing at about 15 percent each year in top line revenue in addition to just completing our first acquisition. We focus exclusively on producing elections, including the digital printing and mailing of precinct ballots, and offer capabilities that our 20-some-odd competitors can't. In addition to our own customized software, we hold four patents on election-related software and equipment, with six more pending.

The years of 2010 and 2012 were especially good for us, but 2014 was a year of reckoning. For reasons I'll get to, that fateful year put a lot of stress on our business and honestly, we almost didn't survive it. I'm happy to say that we did because we were willing to learn from our mistakes and we made significant changes in how we do business and how we define what we're all about. Our quest to "always do better" stands on three legs — culture, leadership, and lean processes — which are now the foundations of the company. But getting to this point wasn't easy.

## The Blind Eye

To understand what happened in 2014, you need to know a little about how the election system works. Voting in the United States is managed by the counties, all 3,147 of them. Counties are divided into precincts (based on voter registration) that each require a unique ballot style. The number of precincts in any given county vary from 15 to over 2,600. Many of our customers are counties in the western states, where voting by mail is a standard procedure. In this case, each voter is mailed a ballot for their unique precinct. They fill it out, sign the envelope to validate, and mail it back to that county. In 2018, we printed over 48,000,000 ballots consisting of over 116,000 styles and mailed 10,400,000 ballots directly to voters.

These ballots are commonly processed on machinery we developed and sell to the various counties. Our proprietary equipment includes our Agilis ballot-sorting system and Sentio on-demand ballot printing system (for printing unique voter ballots), plus software designed for ballot printing, sortation, signature verification, and petition management. These machines are configured based on customer requirements, and the software is customized for each county to ensure complete accuracy. For all counties, our audit trail provides 100 percent accuracy.

In 2014, though, some of our management team made decisions that resulted in about 1,400 ballots out of 3.8 million being mailed with a mismatch of voter-to-precinct ballot style. We'd had an excellent track record up to that point, but we — myself included — took our eyes off the ball. There was a problem with one of our verification cameras and rather than fix it, we had ignored it.

One of the interesting things about American culture is that people turn a blind eye to the two percent of bank deposits that go missing every year or the thousands of people who die in hospitals because they are misdiagnosed or prescribed incorrect medications. Yet, if even a single ballot in an election is wrong, everyone from leaders in Washington, DC to the media to local election officials see it as the collapse of western civilization. In 2014, we came to fully appreciate that voting is a very emotional thing. And with so many tight elections these days, voters know that every vote matters. The media, of course, is equally aware of this and quick to report any kind of ballot problem. When a problem surfaces, it swiftly becomes a problem of voter and customer confidence.

We had the technology to isolate the problem and produce new ballots, which we promptly did. Everyone was still able to vote, and the elections were all fine. But even so, the immediate



(left to right) VP of Operations Bryan Dandurand; CEO Kevin Runbeck; President & COO Jeff Ellington.

impact was loss of confidence on the part of our long-time customers, discouragement among employees, and several national news broadcasters setting up camp in our parking lot. It was not exactly the fifteen minutes of fame we would have wanted. We could have given up, which is a normal human tendency when faced with adversity. To be honest, I thought briefly about pulling the plug and going skiing.

Instead, we reinvented the company.

As we did, we realized three actions on our part were going to be critical: providing proactive leadership, creating a new corporate culture, and implementing lean manufacturing processes. It's easy to think of these as separate things, and to some extent they are, but they are also intimately related and make up the three pillars that drive the success of our organization. Any organization. Maybe your organization.

### **Pivot to Mission**

At the depth of my frustration, I was introduced to a recently

retired U.S. Army major general. We became friends as we contemplated the changes in our lives. As expected, he was getting job offers from major corporations, but to my surprise, he expressed an interest in working with us. To put this in context, by the end of his military career, he had 50 generals and 50,000 troops under his command, and we had only 50 employees. I asked why he wanted to work for us, and he said, "Throughout my career, I always knew my mission, which was to defend democracy. When I retired, I thought that mission had ended until I saw what you do. You defend democracy by defending the integrity of the voting process."

The few minutes it took for him to explain this to me were pivotal, totally changing the way I thought about running my company. I realized that as CEO, I had to imbue in my team the belief that what we do is inherently tied to mission. It's vitally important work that supports democracy. We do it at the ballot box by ensuring the American voting process can be trusted. That's our job; it's how we "defend democracy."



Inspirational quotes throughout the Runbeck facility remind employees of the company's guiding mission.

When I looked at mission this way — as the glue that could bind our company together and propel us toward a bright future — it took on new meaning. It began to drive everything we did to rebuild the company. It became part of our DNA.

### Hansei Moments

Now all of our employees understand our shared mission, and our managers continually reinforce it in participative ways that engage our workers. Moreover, it means we have to find ways to make sure we do everything right.

For example, anyone on our team of now nearly 90 people can call for “a hansei moment.” *Hansei* is part of a 16th century Japanese Buddhist/Zen concept related to the Japanese notion of *kaizen*, the quest for constant improvement. Finding problems is actually something we celebrate because hansei is about identifying one and finding a solution. There’s no finger pointing, blame, or stigma attached to admitting a mistake when an employee calls for a hansei moment. The “moment” can take place on the production floor, in an office, or at a lunch table. Doesn’t matter. The goal is to look at something that went wrong, determine how to make sure it doesn’t happen again, and implement the appropriate new process or procedure.

Most hansei moments are small and involve only a few people. Those of us in management are often unaware of them because

our team members know they can make changes on their own. One recent example involving a large group was a presentation we made to a prospective customer wherein everything went wrong. The presentations were stiff and disjointed, the videos didn’t get played, and the demonstration press samples were out of register. All in all, we looked bad. A couple days later, all those involved, including the management team, had a hansei moment. We dissected all the things that went sideways, agreed on a better approach, and invited the customer to give us a second look. We admitted our mistakes, and we won the contract. The point with hansei is that every problem, anything that doesn’t go according to plan, has a solution. And it is our job — our duty — to understand the cause and find a solution. It’s how we get better.

Ironically, we had been using hansei in some minor ways in 2014, but it wasn’t part of our overall approach to running the company. So even though some employees knew certain decisions made by their managers at that time might cause problems, their concerns were ignored. Their managers weren’t receptive to addressing them. As a result, even though the actual size of our mistake was relatively small and was addressed, we had still failed. Coming on the heels of successful elections in 2010 and 2012, our corporate pride took a big hit. Failure wasn’t something we were used to and knowing we

could have avoided the problems had most people in the company discouraged.

In hopes of keeping everyone on board, I went personally to each employee, and we talked — about them, about the company, about how together we could make Runbeck Election Services a better and truly great place to work. I asked them for help. And everyone stayed. Then I went on the road to every customer. I apologized and asked for another chance to prove we were still worthy of their trust. And they rallied around us, too. Only one customer left us after our 2014 mistake. This broad display of trust was encouraging.

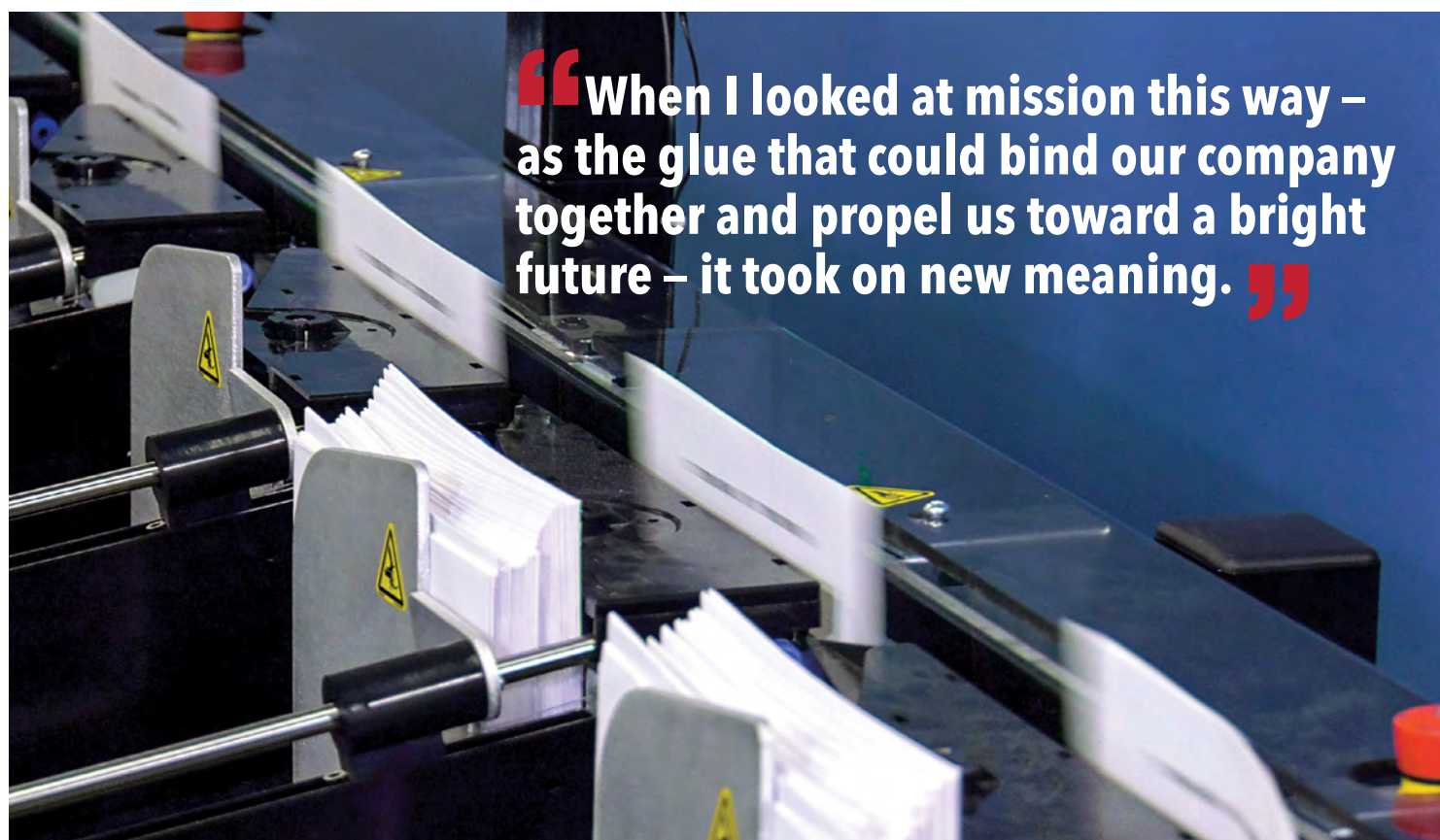
### Looking in the Mirror

I believe that listening to and learning from people with different leadership experiences and perspectives is absolutely vital to creating a strong organization. It's for this reason that our president, Jeff Ellington, and I belong to Vistage International, a group of business leaders that meets once a month with the goal of helping each other improve the ways we manage our respective businesses. One of the things

we've gleaned from Vistage is that if you're not looking in the mirror, you can't see the problem. This may seem like a harsh dose of reality, but if you are a CEO or president who won't acknowledge what your company is doing wrong, you aren't going to be able to improve. Our connection with Vistage International also helped clarify our thinking by assuring us we weren't alone. Others in the group had faced their own points of failure. Being CEO can be a lonely job at times and being able to talk openly with others in similar roles was a tremendous advantage then, as it still is today. One of the things I learned from Vistage members is to look for ways to be more efficient, to do more with less, or in the vernacular of our age, "to be lean."

### Being Lean

Being lean is a lot more than having people attend seminars and gain a level of certification in efficient work processes. It really means looking holistically at an organization and seeing weaknesses and places where collaborative and innovative thinking can have an impact. We knew some of this from 2014



**“When I looked at mission this way – as the glue that could bind our company together and propel us toward a bright future – it took on new meaning.”**



when we tried to increase throughput by adding a new digital press. The problem was that we didn't have a plan or process in place for quickly changing the 1,000-pound rolls of paper the machine gobbled up in almost no time. So while the press could print fast, we were losing almost a shift a day because we didn't have this procedure dialed in. Of course, in election season, there is no time to do something as logical such as calling the press vendor for help. Our work had to be done immediately, so we did the best we could. Once the rush period was over, we took the time to learn the best procedure for changing the five-mile-long roll of paper — and to find other improvements and efficiencies.

For instance, we used to hire as many as 200 temporary

employees to help with processing. We initially thought it would be good to cross-train them so they could do multiple tasks. But we found it was better to foster efficiency by having individuals become proficient at specific tasks. As part of that, we “color-coded” temps by issuing them colored basketball jerseys so they would be on the “yellow machine” or the “green machine.” This way, machine operators could easily identify the temps available to work on a given device. This drastically reduced the number of temps required and cut temp costs by 50 percent.

It's not unusual these days to hear print providers talk about adopting a lean philosophy and seeing a productivity uptick of a few percentage points, but only in the first year or so after



initiating lean operations. This can be for a number of reasons, though in most cases, the new practices probably haven't become habits, maybe software isn't upgraded, or training may be inconsistent. What has made the difference for us is having champions to lead the change. Our president, Jeff Ellington, and vice president of operations, Bryan Dandurand, owned this challenge. They were able to embed lean processes into our culture by making everyone conscious of how they fit into and advance our mission.

The most obvious result of our efforts towards being lean is that our productivity has increased about 20 percent because we no longer struggle to find the best ways to do the many tasks that are part of our operations. Our software, for example,

delivers internal audits so we know about a problem in time to resolve it. These efforts delivered a 16-percent gain to our bottom line in the first year alone.

## Intersection

Leadership underlies both our culture and our lean philosophy. Everything we do is driven from the bottom up, not the top down. This puts the responsibility of all we do on everyone, from the press and inserting machine operators to software engineers to sales reps to the president, and to me. This bottom-up strategy helps ensure our managers are listening to the people who are further downstream.

Moreover, our lean practices work because we have made them part of our culture. From hansei to fostering trust throughout the organization to open communication and commitment to a shared vision and mission, we are all stronger together. It shows in the quality of work, the confidence our customers place in us, and in the mutual trust and respect our employees have for one another. I'm proud to say we've been named "Best Workplace in the Americas" by Printing Industries of America for four years running. Then there's history. Although our more recent employees were not with us in 2014, they all know what transpired. We share the stories as a constant reminder of where we were then and where we are today. The collective memory of this legacy provides the strength and resilience we need as we work to continually achieve our mission.

## Am I a Printer?

I'm sometimes asked if I'm a printer. We are very good at putting ink on paper, so we are technically a printer, but we are really an election services company. We have two high-speed inkjet digital presses and are adding two more this year, along with five intelligent inserters for high-integrity mailing. We develop and sell election-related equipment and software. Our facility is purpose-built for ballot processing and election services. Ensuring the security of elections is what we do. And to this day, we still learn by making mistakes and using every one of them to get better.

---

**Kevin Runbeck**, a fourth generation Arizonan, brings nearly five decades of election experience to Runbeck Elections Services, Inc. As CEO, he has taken Runbeck from a small printing business to a full-service election printing company with patented technology-driven software, equipment, and processes, whose mission is to deliver trusted outcomes. Connect via [runbeck@leadingprint.org](mailto:runbeck@leadingprint.org).

## Industry Employment: Understanding the Real Picture

The Bureau of Labor Statistics (BLS) recently announced it would no longer break out data for segments of our industry in its monthly report, “Current Employment Statistics” (CES). This led to confusion in various corners of the industry.

In making the change, BLS is not saying there are not enough jobs in print to make it statistically relevant. Rather, it has chosen to aggregate previously segmented data (such as prepress and postpress) into the larger “printing” bucket, which remains in the report.

What’s true is that industry employment has seen significant change since the Great Recession. In 2005, there were 650,000 commercial printing employees. By 2016, this decreased by 32 percent to 446,000. This is a significant change, but context helps. Of those losses, 71 percent occurred between 2007 and 2011. While we still see decreases, 2016 was down less than 1 percent from 2015. Yes, the industry is changing, but understanding how and why is critical to staying competitive.

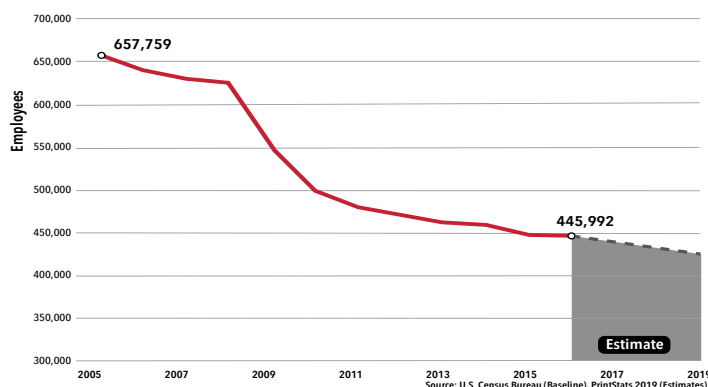


### Employees

- There were 446,000 jobs in Commercial Printing and related support activities in 2016. PrintStats estimates this number will fall to roughly 425,000 by the end of 2019.
- In 2016, the top three metro areas for commercial printing employees were NYC (21,754), L.A. (21,754), and Chicago (20,924).
- The Great Lakes region of IL, IN, MI, MN, OH, and WI account for nearly 30% of U.S. employees at commercial printing establishments.

### Number of Employees (2005-2019)

Commercial Printing, including Prepress and Postpress

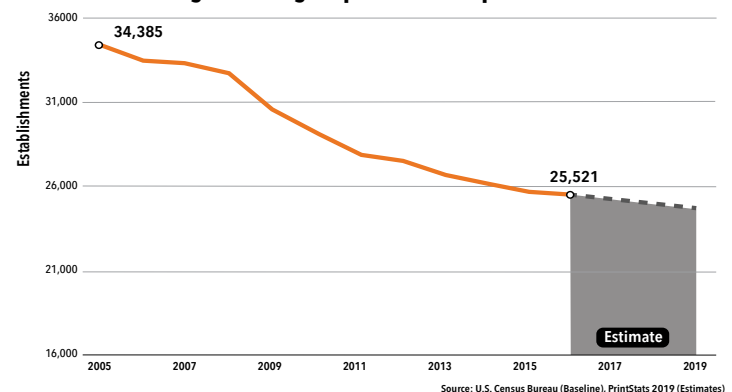


### Establishments

- The number of commercial printing, prepress, and postpress establishments has fallen by **-26%** since 2005 with the largest declines in 2009 (**-6.6%**), 2010 (**-4.6%**), and 2011 (**-4.1%**).
- From 2011 to 2016, establishment declines have averaged **-1.8%** per year. PrintStats forecasts these declines will continue with 2019 falling below 25,000.
- Across the U.S., 70% of commercial printing establishments have less than 10 employees and 93% have less than 50.

### Number of Establishments (2005-2019)

Commercial Printing, including Prepress and Postpress



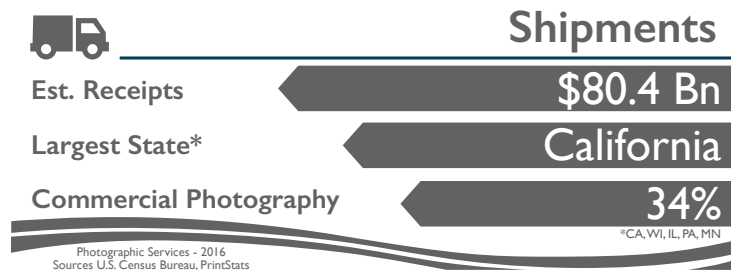
## PrintStats

PrintStats is a business demographic resource developed by industry experts Dr. Joe Webb, Richard Romano, and economic consulting firm ExpliStats. Launched in 2017, PrintStats provides industry professionals and suppliers with actionable data they can use to estimate market size, identify geographic opportunities, and develop sales plans. The baseline data is derived from the U.S. Census Bureau's 2016 County Business Patterns data series, released in April 2018. PrintStats enhances this data with research and statistical analysis to include industry estimates and forecasts.

## Get More

PrintStats is available to APtech members at [tinyurl.com/aptechprintstats](http://tinyurl.com/aptechprintstats). A sample report covering the U.S. graphic design industry is publicly available at [tinyurl.com/printstatsgraphicdesign](http://tinyurl.com/printstatsgraphicdesign).

For more information, contact Ken Garner, [kgarner@aptech.org](mailto:kgarner@aptech.org).



## Shipments

- Though 2016, shipments for commercial printing and related support activities totaled \$80.4 BN.
- Nearly 31% of all revenue from commercial printing shipments comes from the Great Lakes region of the U.S., including three of the top 5 states (WI, IL, and MN). This accounted for nearly \$25 BN in 2016.
- Chicago was the #1 metro area for commercial printing shipments in 2016 with more than \$1.2 BN.

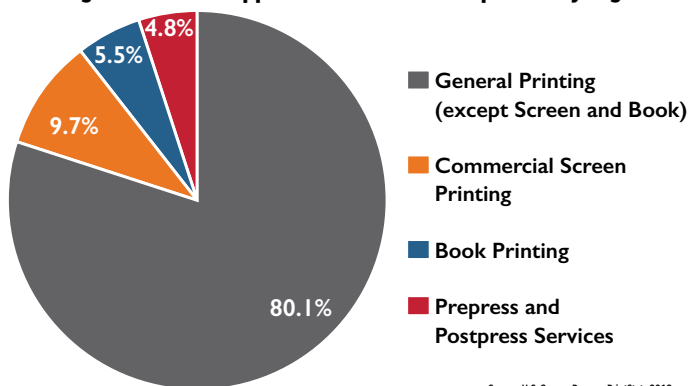


## Annual Payroll

- Annual Payroll for commercial printing totaled just over \$20 BN for 2016, a slight (+0.7%) increase over 2015.
- California, the largest state for commercial printing employment, is also the largest in annual payroll at \$1.9 BN.
- Small establishments (with less than 10 employees) employ 13% of the total number of employees in the industry but account for 10% of total payroll. Large firms (with more than 50 employees) account for 59% of all employees and 64% of all annual payroll.

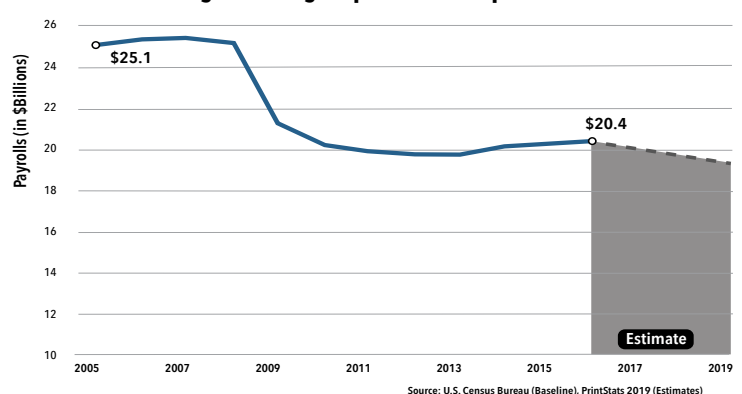
## Shipments by Segment (2016)

Printing and Related Support Activities - % of Shipments by Segment



## Payrolls (2005-2019)

Commercial Printing, including Prepress and Postpress



# Are You Ready



# for Change?

**Industry change-makers — and PRINT® 19 seminar leaders — share their thoughts on why change is hard, but required for success.**

Even when it's clear that business-as-usual isn't a path to long-term success, it can be hard to alter how we operate and what we offer to our customers. Why is change so hard? And what can print industry businesses do to effect positive change to create a thriving future? We asked nine industry leaders, and here's what they had to say. If you want to learn more from these out-of-the-box thinkers, attend their educational seminars at the upcoming PRINT® 19 (October 3-5, 2019, Chicago).

Also included here is the full schedule of PRINT® 19 Learning Experience Seminars. Intrepid print leaders and experts will present on jump-starting change in sales, operations, talent development, marketing, and leadership.



**“The print industry requires exacting processes and high standards for success.**

This means our industry attracts many wonderful, patient rule followers. That's really good for being able to consistently deliver for our clients, but the very nature of this means that change can be hard.

“Change is difficult if you don't have any ideas for change. Just like successful sales people have an active pipeline of candidates, successful business leaders have a pipeline of ideas. It's my observation that successful print organizations are always doing research and development. Some companies create a budget item for testing and trying new ideas, attacking new markets, and investing in new strategies. My dad always said, ‘If you keep doing what you've done, you will keep getting what you got.’ I know for me, that is never good enough.”

— **Gina M. Danner**, CEO  
NextPage



**“Technology is forever challenging us as our customers look for new ways to communicate with their customers.**

The printed word is not going away ... we just have to be able to associate it with the other channels of communication, including digital. While we have focused on how to improve the equipment that prints and finishes the products we produce, today we have to focus on how to connect the tactile with the digital.

“A few years back, the cost of entry to the digital space of communication was expensive and challenging. Today, we can do things that we used to engage a specialist to do. The access to tutorials and training is the best it has ever been. Take the time to learn, and you will quickly see that new technology can and will create new opportunities to sell more service to your clients.”

— **Wayne Marshall**, President  
Flatout Branding



**“The print industry has seen more changes and industry shifts since the 1950s than in the five centuries before.**

Print’s role in mass communication has forced generations of print professionals to struggle in this always-on, app-driven, instant-gratification world. These changes, driven by new consumer buying habits, are now impacting the way businesses research and purchase equipment, technology, and print.

“Pay attention to what consumers and business buyers are saying, expecting, and willing to pay for in an experience. Find the conversations taking place and the groups having them. Ask questions and contribute. Put what you learn to good use with changes reflected in your messaging, content, and conversations. Once you identify with your buyer and what matters most to them, you can capture attention and wallet-share.”

— **Joanne Gore**, Founder  
Joanne Gore Communications



**“Initiating change can take our breath away. Are we willing to pay the price of admission for change — uncertainty, time, money, risk, and company buy-in?**

We call it *change* when it is in front of us and *progress* when it is behind us. Take a moment to review the positive changes implemented within your company. Possibly, those changes elevated employees, sales, production, and even customer awareness. So, is change the vehicle

that moves us forward? It is!

“Honesty and continual collaboration with your internal leadership team create an open platform to discuss future growth and opportunities. If you do not have this team in place, that is the first ‘change’ to initiate.”

— **Debbie Nicholson**, CEO  
Think to INK!



**“As humans, we are creatures of habit, comfortable with the status quo.**

Innately, we fear change because it often causes disruption and forces us to work outside of our comfort zones. For printers, change can be quite intimidating, but resisting it can be devastating. The inability to embrace new technology, for example, has caused the demise of thousands of graphic communications companies over the years.

“To quote Cuba Gooding, Jr. in the film *Jerry McGuire*, ‘Show me the money.’ Printers should always follow the money trail, ensuring that their product mix is diversified and includes segments of the market that are growing and offering the greatest profit potential.”

— **Michael Makin**, President and CEO  
Printing Industries of America



**“Most of us don’t go into business to change things.**

We enter mature markets and differentiate ourselves through improved service offerings on already developed products. We make them faster, cheaper, or higher quality than the competition. But what happens when the core value of a product disappears? Change in any disrupted industry requires creativity — the ability to develop new products to replace the displaced ones. Creativity requires a completely different set of skills.”

— **Jon Budington**, CEO  
More Vang



**“Firms today need to build their business to respond to customers’ evolving needs, developing intelligent solutions that drive results.**

We get stuck in our old way of doing business — transactional, not consultative. Print solution providers need to create companywide initiatives to embrace prospects’ and customers’ needs for more strategic solutions. Leadership is crucial in developing and spearheading this new

journey so that team members understand the related goals and objectives. Create goals that can be measured and regularly reviewed with the entire team — from CEO to receptionist. Get everyone steering in the same direction and understanding where the company is headed.”

— **Leslie Groene**, President  
Groene Consulting

**“WE CALL IT CHANGE WHEN IT IS IN FRONT OF US AND PROGRESS WHEN IT IS BEHIND US.”**

— **DEBBIE NICHOLSON**



**“It’s not that change is hard; it’s that change represents the unknown.**

For most printers, the deeply held belief is that the unknown should be avoided. But when we provide the right education, change happens. We see it in the adoption of inkjet printing, web-to-print, and ongoing automation projects.

“If you want to kick-start change, do an assessment of your business, workflow, and production. Follow jobs from stage to stage to see the

bottlenecks. Watch for touchpoints and interventions that can be eliminated with new solutions, protocols, or accountability. And remember that it’s easy to find justification for inefficient processes when you’ve seen them evolve. Consider using outside help to be effectively impartial.”

— **Pat McGrew**, Senior Director  
Keypoint Intelligence



**“In my 40+ years in the industry, there has been tremendous change.**

By and large, most printing companies have been adept at adjusting to it. We all know the steady march of changes on press: 4/C presses replacing two passes through a 2/C press; then 5/C presses; followed by 6/C; and now offset presses with ten or more units, UV LED inks, and perfecting units, all running at breakneck speeds with real-time color management. Think

about the changes to front-end image preparation, from negatives to Scitex to MACs to imagesetters to, finally, platesetters; now competing with digital presses that reimage every impression. And that’s only the technology. Just as relentless has been the change in service offerings.

“Change has been constant in our industry. My advice: Don’t be afraid to cannibalize the current business when change (technology or service offerings) will better serve key customers, who are the real drivers of your business.”

— **Mark R. Hahn**, Managing Director  
Graphic Arts Advisors

# Education At-A-Glance



**THURSDAY,  
OCTOBER 3**

## PRINT 19 SEMINARS *Registration Required*

8:45 AM – 9:45 AM	<b>K1 Keynote Session:</b> The Wired Future: Artificial Intelligence, Robotics, Privacy, Social Media, Truth, Tech Companies, and More – Nicolas Thompson, Editor-in-Chief, Wired Magazine <b>FREE SESSION</b>			
10:00 AM – 12:00 PM	<b>L1 Computer Lab:</b> Photoshop Ninja Training: Fast and Accurate Color Correction & Image Adjustment Skills for Print & Web – Taz Tally, Owner, Taz Tally Photography			
10:00 AM – 10:50 AM	<b>R1</b> And Now for Something Really Interesting: Next Big Thing in Print and Mail! – Marc Mascara, Associate Director, Keypoint Intelligence	<b>R2</b> Everyone Hates Performance Reviews! Learn How to Build a Better System for Your Business! – Joseph Truncale, Chief Executive Officer, PRSA	<b>R3</b> Brand Inspiration – How Good Ideas Become Great Packaging – Linda Casey, Editor-in-Chief, Brand Experience magazine (BXP)	<b>R4</b> It's Time to Take Control of the Sales Cycle! – David Fellman, President, David Fellman & Associates
11:00 AM – 11:50 AM	<b>R5</b> The Status of Printing in the USA – Where we Really Are Today and a Clear Look at the Future – Frank Romano, Professor Emeritus, RIT/College of Imaging Arts & Sciences	<b>R6</b> Shine On! The Complete Guide to Foil & Metallic Decorating – Jeff Peterson, Executive Director, Foil & Specialty Effects Association	<b>R7</b> Yes, You CAN Get Consistent Color Across All Packaging Types! Here's How! – Steve Smiley, President, SmileyColor & Associates	<b>R8</b> Do You Know What Your Business is Really Worth? Find Out in This "Boot Camp" Valuation Workshop! – Mark Hahn, Managing Director, Graphic Arts Advisors
12:00 PM – 12:50 PM	<b>R9</b> This is Your Brain on Paper – Daniel Dejan, North American ETC Print & Creative Manager, Sappi North America	<b>R10</b> Go Global! A First Hand Look at International Markets for Print! – Hamilton Costa, Consultant, AN Consulting	<b>R11</b> Unleash the Power of your Brand and Win Customers for Life! – Deliha Hahn, Sr. Marketing Account Executive, Flatout Branding	<b>R12</b> How to Design Products for a Circular Economy – Christoph Ruef, Vice President and General Manager, Americas Printing Business, HP Inc.
12:00 PM – 1:30 PM	<b>LU1 Luncheon Session:</b> InfoLunch! Industry Insights With the KPI Team – Pat McGrew, Senior Director, Keypoint Intelligence			
1:00 PM – 3:00 PM	<b>L2 Computer Lab:</b> Keep it Moving! Build Great Motion Graphics with Adobe After Effects – Donna Templeton, Graphic Communication Instructor, Cal Poly State University			
1:00 PM – 1:50 PM	<b>R13</b> It's a "Sticky" Business! Grow Revenue with Marketing Support Services, Store Fronts and Fulfillment! – Wayne Marshall, President, Flatout Branding	<b>R14</b> What is Your Business Worth and How Can You Grow its Value? A Panel Discussion – Mitchell Evans, Director and Mark Hahn, Director, Graphic Arts Advisors	<b>R15</b> The WOW Factor – Digital Embellishment Effects, Techniques, and Best Practices – Joseph Marin, VP, Education and Training, Printing Industries of America	<b>R16</b> The Fool-Proof System for Purchasing and Testing Multi-color Presses (Sheetfed and Web) – Raymond Prince, President, Raymond J. Prince Consulting

FRIDAY, OCTOBER 4		PRINT 19 SEMINARS <i>Registration Required</i>			
8:30 AM – 10:30 AM	<b>L3 Computer Lab:</b> Photoshop Ninja Training II: Advanced Photoshop Skills for Composition & Editing – Taz Tally, Owner, Taz Tally Photography				
9:00 AM – 9:50 AM	<b>R17</b> Print Market Update for 2019 and Beyond – Michael Makin, President & CEO, Printing Industries of America	<b>R18</b> TransPROMO – Turn up the Volume of Bills, Statements and Marketing Messages – Pat McGrew, Senior Director, Keypoint Intelligence	<b>R19</b> Humbled: Everything I Did Wrong in my Transformation From Printer to Creative – Jon Budington, CEO, More Vang	<b>R20</b> How to Defeat the Top 20 Productivity (and Profit) Killing Pressroom Problems – Raymond Prince, President, Raymond J. Prince Consulting	
10:00 AM – 10:50 AM	<b>R21</b> In-plant Panel: Futurists -vs- Dinosaurs (Hint: You Want to be a Futurist!) – Moderator: Elisha Kasinskas, Marketing Director, Rochester Software Associates (RSA)	<b>R22</b> Top 10 Adobe CC Quick Tips That Will Make Your Life Easier – for Digital Operators – Joseph Marin, VP, Education and Training, Printing Industries of America	<b>R23</b> The 5 Hottest Print Design Trends of 2019 – Sabine Lenz, CEO/Founder, PaperSpecs	<b>R24</b> How to Understand & Leverage the Real Value of Your Wide-Format Printing Operation – Debbie Nicholson, CEO, Think to INK!	
11:00 AM – 11:50 AM	<b>R25</b> Selling Print in a Sea of Change – Daniel Dejan, North American ETC Print & Creative Manager, Sappi North America	<b>R26</b> Voice-First Printing: How Voice Assistants, Smart Speakers, and the Voice Movement Is Impacting the Print Industry – Bradley Metrock, CEO, Score Publishing	<b>R27</b> Seeing is Believing: How to Intelligently Set Your Brand Color Tolerances – David Hunter, President, ChromaChecker	<b>R28</b> Screw the 90 Day Plan – How I Set a Vision for the Next 25 Years! – Gina Danner, CEO, NextPage	
11:00 AM – 1:00 PM	<b>L4 Computer Lab:</b> You’ve Heard About Augmented Reality, Now Create Your Own - Hands-On! – Charles Weiss, Associate Professor, Clemson University				
12:00 PM – 12:50 PM	<b>R29</b> Keep the Outsourcing Wolves Away: How Leading In-Plants Continue to Thrive – Howie Fenton, Owner, Howie Fenton Consulting	<b>R30</b> MAXimizing Color Control: Radical New Opportunities That Go Way Beyond CMYK with iccMAX – Don Carli, CEO, Nima Hunter Inc.	<b>R31</b> Everything You Need to Know About Expanded Gamut Printing - Real Systems, Real Test Results – Abhay Sharma, Professor, Ryerson University	<b>R32</b> Flip the Funnel! How I Sell More Print by Not Selling Print At All! – Rick Sands, CEO, The Fenway Group	
1:30 PM – 3:30 PM	<b>L5 Computer Lab:</b> How to Build Your Design Chops, Even if You’re Not a Designer With Adobe InDesign – Lorraine Donegan, Professor, Cal Poly State University				

SATURDAY, OCTOBER 5		PRINT 19 SEMINARS <i>Registration Required</i>			
8:30 AM – 10:30 AM		<b>L6 Computer Lab:</b> Improving Image Composition and Live Critique of Your Work. An Exclusive New Program with Taz Tally – Taz Tally, Owner, Taz Tally Photography			
9:00 AM – 9:50 AM		<b>R33</b> Keeping Up With the USPS! What You Need to Know to Navigate the Postal Landscape – Chris Lien, President, BCC Software	<b>R34</b> How to Make Money with Augmented Reality – Alan Smithson, CEO, Metavrse	<b>R35</b> Old School Sales is Dead! Here's How to Master the Consultative Sale – Leslie Groene, President/ Founder, Groene Consultant	<b>R36</b> Growing Margins Beyond the Page: New Opportunities in Sign & Display – Ron Gilboa, Group Director, Production Technology, Keypoint Intelligence
10:00 AM – 10:50 AM		<b>R37</b> The Top Three Printing Industry Success Factors and How YOU Can Master Them – Joanne Gore, Founder, Joanne Gore Communications	<b>R38</b> Expand Your Business With Sublimation Printing: The Complete Blueprint! – Mike Motter, President, Sublimation Color Management	<b>R39</b> How to Serve Today's Savvy Customer and Build Your Online Sales by Leaps and Bounds! – Slava Apel, CEO, Amazing Print Tech	<b>R40</b> Enter the "Success Matrix" and Grow Your Commercial Print Business – Randall Swope, Senior Consultant, Gimbel & Associates Inc.
11:00 AM – 11:50 AM		<b>R41</b> Vertical Vertigo: The Highest Growth Markets for Your Business and How to Approach Them – Karen Kimerer, Director, Keypoint Intelligence	<b>R42</b> How to Master SEO and Grow Your Online Business in 2020 and Beyond – John Bracamontes, President, Acumen Studio	<b>R43</b> Marketing Makeover – How To Stand Out In A Content Saturated World – Antoine Dupont, CEO, Dupont Communications	<b>R44</b> The Bionic Salesperson: Rebuilding Yourself as a Next Level Success – Kelly Mallozzi, Principal, Success.In.Print
12:00 PM – 12:50 PM		<b>R45</b> You Want the Best Talent? Learn How to Recruit Them the Right Way – Kerry Heaps, President, Book.Speak.Repeat	<b>R46</b> Quantum's Leap: Leveraging Print Automation in Multi-Channel Campaigns For Double Digit Growth – Alan Darling, Vice President, Information Systems, Quantum Group	<b>R47</b> Everything You Don't Now (But Should) about the Standards That Shape How You Work! – Raymond Cheydleur, Print, Packaging and Imaging Product Portfolio Manager, X-Rite Incorporated	<b>R48</b> Pushing the Envelope: Why Omni-Channel Direct Mail Works! – Christine Erna, Consultant, CJE Consulting

REGISTER TODAY! **PRINTevent.com**

**PRINT<sup>®</sup>19**  
OCTOBER 3-5 | Thursday – Saturday  
McCormick Place North | **CHICAGO**

# We Eat **CONSTRAINTS** for Breakfast



Photos by Hannah Singleton

# SunDance succeeds ... one barrier-busting solution at a time.

By JohnHenry Ruggieri

**A**t SunDance, we've been achieving over 20-percent compound annual growth year over year since our inception in 2007. This isn't easy, and people often ask me how we're doing it. I can cite investment in equipment and technology, our marketing efforts, or our continual focus on efficiency — a l of this clearly plays a

part. But there's one overriding factor I credit for our success: Our company-wide culture and philosophy towards meeting our customers' needs. It all begins with one simple phrase: "Never start from 'no'."

---

Print an edible cookbook? No problem!  
(JohnHenry Ruggieri, left)





(left to right) JohnHenry Ruggieri with his father, John Ruggieri. Finishing manager Dave Leyer modified a folder gluer to fit this large pocket folder job. Pressroom supervisor Damon Jenkins stands proud over reduced solvent waste.

I have to credit my father, John Ruggieri, for this mantra. Let me first take a step back to yet another generation. My grandfather started a pharmaceutical packaging company called Comar. My father and uncle took over the reins and grew it into the expanded, thriving business it is today (presently managed by my brother). Comar makes all kinds of plastic packaging solutions for the pharma industry (e.g., bottles, droppers, syringes). Imagine, a drug manufacturer comes to Comar and says, “We have this product, and here’s how we want to package it.” And this is where it begins — the collaboration, the search for a balance between the customer’s objectives and the manufacturing capabilities and constraints of injection and blow molding. My father strongly believed — and saw this theory manifest over and over again — that the key response to the initial question from a customer (“Can we do x?”) should never be “no.” It creates an immediate and irrevocable barrier. It limits creative thinking and potential solution-finding. “Yes,” even when followed by a qualified “but,” keeps the door open to opportunity and the possibility of a fruitful outcome.

My father was also a business broker, and he excelled at matchmaking between parties looking to buy or sell businesses. In 2006, in the process of assessing a company, he bought it because he believed it had promise: SunDance Graphics, in Orlando, Florida. He left business brokering behind, and I moved to Orlando from Africa, where I had been managing a cattle ranch, to embark on this new endeavor. SunDance Graphics was and still is a fine art publisher and art licensor that provides on-trend art to an international audience. We brought our root philosophy to the business, and without a doubt, it enabled us to be successful from the first year. This was a significant since year one was the start of the Great Recession.

When we purchased SunDance Graphics, it had a single in-house press used to produce fine art prints and posters. While there was work for the press, it was an underutilized asset, and our business plan hinged on leveraging it to its fullest capacity. We couldn’t afford to turn prospective customers away. From these beginning days, trying to fill press capacity and build business despite the economic downturn, we found ways to meet our customers’ needs even when prevailing wisdom would say we couldn’t.

I’ll give you an example. Being based in Orlando, one of the markets we wanted to serve with commercial printing is the theme parks, their restaurants, and other businesses units on property. One such restaurant came to us asking if we could print customized drink coasters, and our staff responded, “Sorry, we don’t do that.” My father and I jumped in and asked, “Why not?” Our sheetfed press wasn’t rated for the required board stock thickness of .89 mm, but reluctant to turn away a customer, we pressed forward. Working with our new team, we found a way to modify the grippers on the press to open wider to allow us to guide through a thicker board stock. With a little out-of-the-box thinking and some ingenuity, we came back with a solution, delivered the product as requested, and gained a customer. This solution also afforded us the opportunity to set the



tone with our team and demonstrate that we wouldn't turn our back on a challenge, even modifying a multimillion-dollar piece of equipment if that's what it took to say "yes" to a client.

Another restaurant came to us wanting to print plastic menus. At the time, we had just the one short-delivery press with no UV or extended delivery capabilities. This didn't stop us from saying "yes." We asked ourselves, what do we need to do to run this job? The answer: We ran small loads, used Oxy Dry inks and changed them out frequently, put additives in the fountain solution, and ran extra fans to help with drying. It wasn't the most elegant solution, but I'll tell you what: It made us stand out. Very few sheetfed printers in our area were printing on plastic at the time. Our determination to find a way won us another loyal customer.

Fast forward about a year and a half, and our business plan progressed. We were seeing consistent, substantial growth with our commercial printing business and decided it was time to create a separate company, now known as SunDance. We brought on an additional partner with extensive print sales experience, purchased a new sheetfed press, and added to our production team. In more recent years, we've added numerous digital presses and finishing equipment.

SunDance is now a multi-channel print and marketing company that provides global solutions with an array of services — design, branding, digital and offset printing, finishing, direct marketing/mail services, fulfillment, and digital marketing — to a wide range of companies, many of which are in the healthcare, hospitality, higher education, theme park, non-profit, and manufacturing sectors.

## Taking Risks

Through the years, we have evolved our originating philosophy from "Never start with 'no'" to "Find a way to say 'yes'." When a unique opportunity presents itself, we look at every conceivable way of executing on it, and this above all sets us apart from our competition. The key to it is getting our entire staff on board, all operating with the same mindset and approach. To do this, we give our employees permission and room to explore solutions and take risks.

For instance, we were producing a set of marketing materials for a healthcare client, and one piece of the job was going to require \$18,000 of hand taping — a significant expense. Our department manager and machine operator took the initiative to question this and investigate alternatives. They discovered that if a guide was removed from our folder gluer, the product could be run through the machine, using glue instead of tape, enabling us to produce the pieces much faster and with far less expense. Our crew was empowered to look at the machine specs and say, "Well, why is 30 inches the limit? What are the options, downsides, and benefits of removing these guides along the side?" This is exactly how we want our staff to think.

Often our employees' ideas are big-picture and align with our core values as a company. Like when our press team advocated for recycling

the solvent waste from our offset press and then researched the necessary equipment for turning the waste into distilled, recyclable water and solvent. We implemented their suggestion and have now reduced four drums of waste per month to two or three *per year*. They identified an opportunity and presented a well-researched, effective, environmentally friendly, cost-saving solution. This example aligns perfectly with our values as a Sustainable Green Printer and supports the environmental stewardship our customers have come to expect from our brand.





## Making Commitments

When a customer asks us for something that requires equipment or a capability we simply don't have, it's not an automatic show-stopper. There might still be a way to get to "yes," even if it involves making an investment — whether short (low risk) or long term (potentially higher risk).

We had an opportunity with a hospitality customer to make an investment to win their business. The initial project, which the customer wanted to award to a single vendor, consisted of a myriad of print components, including a card holder with a very intricate cut pattern. Our team quickly determined that this delicate pattern couldn't be diecut with a standard steel rule die. It would require laser cutting capability, which we didn't have. This was back when laser die cutters were not common pieces of equipment for a commercial printer. And while we could have outsourced this one piece, we would have risked not meeting the customer's deadline or their budget. We looked at the project, and asked ourselves, how can we get to "yes" here? With just a customer handshake and a commitment to produce the product with us at least once more, we bought a laser cutter. Now, as I said, laser die cutters were not common — nor could we have justified the expense if they were. Instead we bought a laser cutter for engraving from a local manufacturer. We brought the equipment in quickly, hand-fed the pieces, and got it done in time — meeting the client's expectations and keeping a large, lucrative project.

That was a short-term win that didn't require or justify a long-term investment. But sometimes our customers' needs do drive us to more committing

endeavors. Like when we created a mailing department ... in just a few weeks.

This was a situation wherein one of our major healthcare customers had a dire need. They were having problems with their mail house and came to us asking if we could handle their mail. We had been considering getting into mailing, and this was a perfect opportunity for us to commit. We said yes and went to work. We bought a mail machine and an inkjet tabber and hired a full-time mail professional. We quite literally had things up and running within weeks, meeting our customers' distribution deadline and establishing an offering we would continue to grow and develop. We now have a mailing division, have added more equipment, and provide mailing services for many of our clients. It's not a huge portion of our overall revenue stream, but I can say unequivocally that it has allowed us to secure additional top-tier customers we would not have otherwise.

## Collaborating For the Win

I would venture to say our most fulfilling over-the-top, out-of-the-box projects are the ones that require creative collaboration with our customers.

The most standout project of this kind was an edible cookbook. Yes, you read that right — an edible cookbook. An agency came to us, having found us through our SEO efforts, asking if we could print a book using edible material. You've probably seen eco-friendly paper embedded with seeds. You plant the paper and, as it dissolves, the seeds remain. This was the same concept. Wet the paper, and seasonings remain. The publisher wanted readers to be able to tear pages out and use them in the recipes. Although we are versed in printing FDA-approved products, those never actually involved food products. This request did and would present many challenges.

Rather than saying, "Sorry, we can't do that," we asked the customer to tell us exactly what was required to do the job. First and foremost, we would have to create a "clean room" where we could digitally print and



We launched a mailing department in just weeks to meet demand (staff at left). Above, our technicians loading tablets for a unique, customer-driven data-management project.

assemble the books. It would need positive air pressure and air filters, and we'd have to make sure anybody who walked in wore a bodysuit, hairnet, gloves, and shoe covers. Accomplishing this is no easy task, as it required an airlock entrance to the room. Rather than being deterred, we jumped in. We converted one of our conference rooms, took out some of the furniture, put plastic over the doors, covered up the carpet, and made all the necessary changes (none structural). We didn't have the qualified staff to maintain the necessary QC certification, so we used the customer's QC staff for the project. Using remote cameras, we had a 24-hour live stream video to audit the process to make sure it complied with the necessary quality standards.

In the end, we met the customers' aggressive deadline and produced the product they needed. For us, it was a very profitable project, and it pushed us out of our comfort zone. It was fun and inspiring and rallied our team to innovate a solution.

More recently, we've collaborated with a customer to solve a data-oriented challenge. This is one of our larger clients, and they needed us to manage the dissemination of legal documents that can change frequently. Add to this another level of complexity: The data varies based on certain geographical factors among its recipients. Re-printing jobs to keep up with these data updates and versioning was not a fiscally smart solution.

The client came to us looking for a digital solution. Instead of fighting the idea, we embraced it. We designed a process utilizing electronic tablets to distribute data updates. We assigned one of our programmers to code the project, establish tracking protocols, and build a client-friendly interface. This is an important customer we couldn't afford to lose. When they came to us and asked, "Can you do this?," we figured out how.

When we approach projects this way, open-minded and willing to take risks, we create intimate customer relationships — ones in which there's a sense of loyalty, an implicit trust, and a reliance on each other. These relationships last and persist over time. And they create opportunities for innovation. There's a willingness and a drive, on both sides, to get past constraints and find ways to achieve the goals at hand. To find creative ways to say "yes."

No, we don't win every customer. We can't find a

way to "yes" on every conceivable project. But our approach of customer-driven innovation is helping us continue our record of growth. Since 2007, we've expanded from 15,000 square feet of facility space to 43,000, and now we're looking to add a second facility. Our compound annual growth rate is steady. We're profitable. We have a very committed team, driven by the challenge to solve our customers' problems. And most importantly, we have customers whose challenges are being solved. That is our ultimate goal.

---

**JohnHenry Ruggieri** is president of SunDance, a company focused on creating innovative custom solutions in both business and consumer markets, for clients large and small. Connect via [ruggieri@leadingprint.org](mailto:ruggieri@leadingprint.org).



When a client came to us wanting to print an edible cookbook, we could have said no. Instead, we suited up and figured out how to do it.

## iccMAX: The New Color Revolution

Color management, the process of controlling color conversion and consistency between input, display, and output devices, is standard practice in most quality-focused printing plants today. This has been enabled by the **International Color Consortium (ICC)**, which was established in 1993 to create an open, vendor-neutral color profile format standard supported by major computer operating systems, platforms, and applications. While the current version of the resulting "ICC profile specification" (V4) hasn't changed since it was introduced in 2010, many other things have, including lighting technology and options for printing colorants and substrates. And while the **ICC V4** architecture facilitates color communication, it was not designed to support management of color appearance (how color looks in different lighting conditions or on reflective or textured surfaces). To help brand managers, designers, and printers work with new lighting, color, substrate, and finishing options, the ICC approved in late 2017 a new, highly flexible extension to ICC V4 called **iccMAX**. This, along with

new appearance-management solutions, may be as big of a revolution in color management as those first ICC profiles.

ICC-based color management sets standards for lighting conditions and color interchange, making cross-platform, vendor-neutral color application in graphic arts environments possible. But there's a problem in that those narrow standards — a highly constrained set of colorants and lighting, viewing, and observer parameters — don't address metameric color-matching problems.

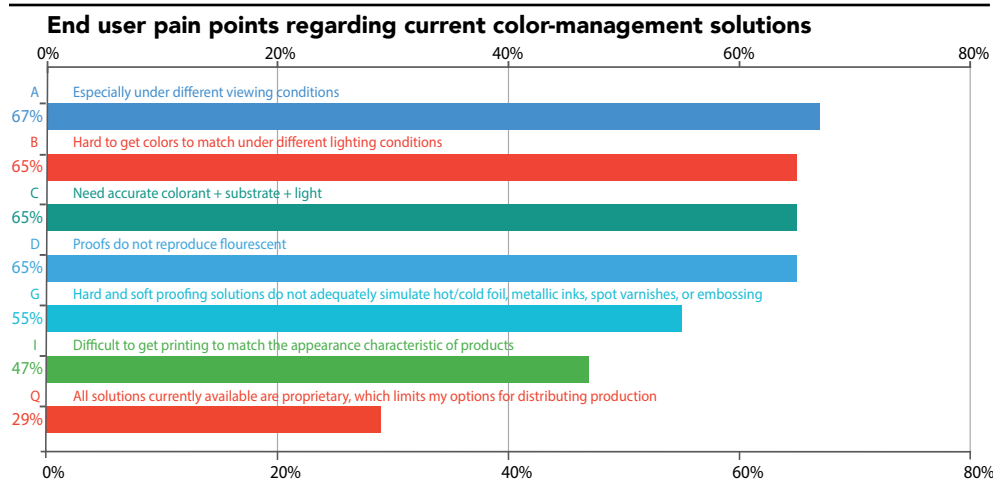
**Metamerism** describes situations in which the color of two objects match under one set of conditions but not under another. Sometimes this is purposeful, as with grocery store meat counters that use special display lighting to make red meat look much redder than it will look in your kitchen. For printed production, however, metamerism isn't normally a good thing. A menu, for example, may look great under the standard D50 lighting in a light booth but then be difficult to read in the uncontrolled lighting of a restaurant.

Further, dramatic changes are underway in the technologies used to light our homes, workplaces, and retail

environments, increasing the incidence of metamerism. A world formerly lit primarily by daylight, incandescent, and fluorescent light is now being illuminated by LEDs and other solid-state lighting solutions with spectra that differ from the D50 illuminant description of today's standards-based color-management solutions. In other words, products may look very different under these new lighting conditions, and this cannot be anticipated in the proofing stage using current color-management techniques.

Even more challenging is anticipating the appearance of new colorants and special effects that are growing in prevalence. There are fluorescent inks, metallic and pearlescent colorants, substrates and coatings, plus gloss and even textured (physical) effects. Many of these physical effect colorants derive their spectral and specular characteristics from physical optics processes, such as interference, diffraction, and plasmonic resonant light scattering. Think of the metallic paints you see on some cars. These often contain flakes of mica or other materials that act like tiny reflectors, making the surface look different under varied lighting conditions or from different viewing angles. Similar effects are coming into greater use as "value adds" in printed products and cannot be accurately read using standard 45-degree-angle spectrophotometric devices commonly in use in printing plants today.

Anticipating these changing conditions and the challenges they pose to the entire color value chain, the ICC began developing the new extensible specification **iccMAX**. Instead of the fixed D50 colorimetry of ICC V4, **iccMAX** supports spectral



communication of color; material identification and visualization; characterization of a surface (reflective, absorptive, bumpy) called Bidirectional Reflectance Distribution Function (BRDF); and improved gamut and color transforms. According to Max Derhak, ICC Vice Chair, Chair of the ICC Architecture Working Group, “iccMAX represents a major change, a fundamentally new architectural framework to structural limitations of the current ICC specification.”

Key to this framework is a new way of measuring spectral data. This requires “hyperspectral” appearance-management solutions.

**Hyperspectral imaging (HSI)** is a technique that analyzes the spectrum of light for each pixel in an image or scene, instead of just assigning trichromatic primaries, such as RGB. This provides the information required to enable non-metameric color matching. Some of these solutions can even identify the molecular composition of an object.

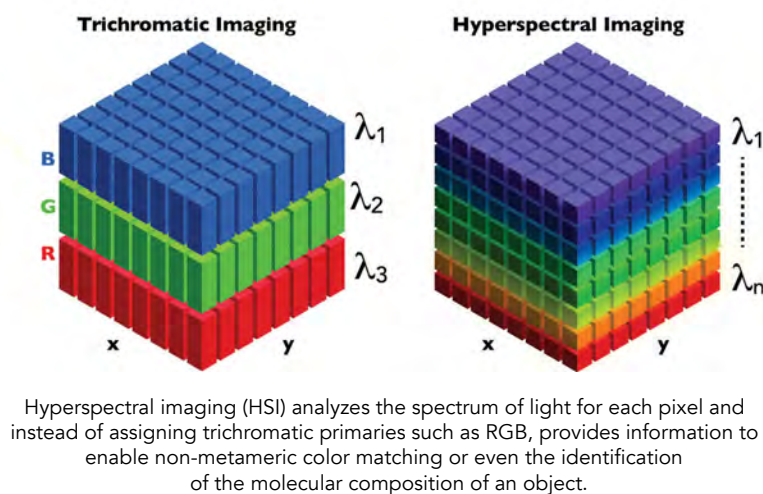
Hyperspectral imaging opens up new opportunities for managing the color and appearance of 3D printing, printed electronics, textile printing, security printing, and augmented or extended reality print applications. It also enables printers to better manage the color appearance of extended gamut colors, fluorescent materials, and the growing array of special effects pigments and coatings that are being sought by brands in efforts to set their products and

marketing materials apart.

There are over 200 vendors of hyperspectral imaging systems on the market today, and while most serve industries outside print, the list includes a few recognizable names, including X-Rite and Konica Minolta. Still, there is much work to be done before

opportunity for savvy print industry organizations to serve what is likely to be a growing market. Now is the time to educate your company, employees, customers, and prospective customers about topics like metamerism and the notion of appearance management; research new hyperspectral color

measurement and imaging solutions, new solid-state light sources, and ultra-high definition wide gamut monitors; and learn about the potential benefits of the up-and-coming iccMAX spectral appearance-management solutions, including seeking out vendors looking for early adopters of standards-based iccMAX solutions to control metamerism, CMYK+ print, and special effects embellishments.



hyperspectral color appearance solutions based on iccMAX are ready for prime time. At the time of this writing, there is only one vendor with a commercially available Raster Image Processor (RIP) solution supporting the iccMAX specification: Onyx Graphics.

A 2017 study by Keypoint Intelligence/ InfoTrends titled “Beyond CMYK: The Use of Special Effects in Digital Printing” estimated that 30 percent of offset-printed color pages and less than 3 percent of the total production of color digital print pages have some type of enhancement beyond CMYK process colors. It also found that print buyers are willing to pay a premium of 24 to 89 percent for digital print enhancements and CMYK+ color. This is an

## PRIMIR Research

This information is excerpted from the PRIMIR research study, “Discovering a New World of Color and Appearance Management Solutions.” The study provides credible baseline metrics and projectable consensus forecasts using opinions from vendor product managers, experts, prepress customers, and end-users related to the adoption and use of new color and appearance-management software and color-measurement hardware over the 2017-2022 forecast period.

## GET MORE

PRIMIR research studies, including the balance of this one, are available to APtech members at [primir.org](http://primir.org). For more information, contact Ken Garner, [kgarner@apttech.org](mailto:kgarner@apttech.org).

# A Grassroots Effort: Attracting Workers to Careers in Print

No company or business can thrive without skilled employees. In general manufacturing, the current labor shortage will continue to grow as 3.5 million manufacturing jobs will become available over the next ten years. After factoring in pending retirements, an estimated two million of those jobs will go unfilled as potential younger workers will either not consider manufacturing as a career or leave manufacturing soon after starting.

Printing is very much a manufacturing process, and over the past few years, the industry has recognized and is reacting to its looming workforce shortage. As such, this critical shortage is now cited as the number one issue (“by” or “for”) plant management. Also, the concept that “print is dead” needs to be addressed aggressively. The industry has to face head-on the belief that little of anything is printed. There needs to be a concerted effort to inform the general public of how print touches people’s lives almost every minute of the day.

The following examples of current manufacturer recruitment and awareness programs show there is no one panacea that works for all situations or the entire industry. But actively promoting manufacturing and print requires a multi-layered approach with many points of contact to make an impact. Print should benchmark these and try to emulate them as possible solutions for the industry. These are just a few examples of what is happening across the country.

## Michigan Works!

In Michigan, Career Day programs introduce elementary and middle school students to career possibilities across the state. Working with local and regional

businesses, the plan creates interest by having students actively engage in doing part of a job. In other words, no static tabletop displays are allowed. Roofers bring a section of a roof with tool belts, hammers, nails, and safety gear (like a harness), for example, and have students climb the roof and do the job.

## STEP Ahead Pledge

In 2012, The Manufacturing Institute launched the STEP Ahead initiative to combat the gender gap in manufacturing. The STEP pledge encourages women to enter manufacturing careers by providing strategic support. Among the national initiatives are efforts to mentor young women, to develop affinity groups that generate ideas and share best practices, and to promote personal development.

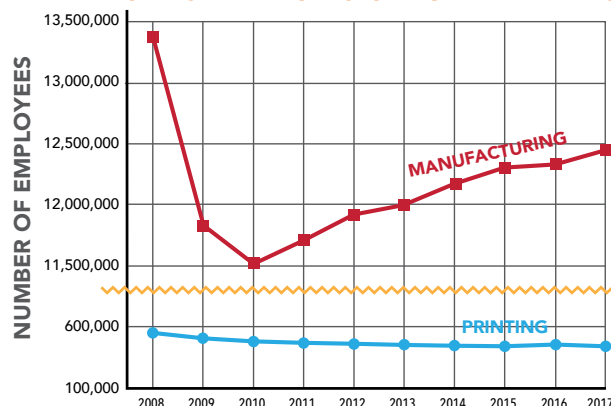
## Manufacturing Day

Manufacturers Association of America (MAA) created the first Manufacturing Day in 2005 with the ambitious goal of affecting the public’s perception of manufacturing and inspiring more people to pursue manufacturing careers. The effort was measured in a 2016 survey by Deloitte reporting that 84 percent of 267,000 students who attended MFG DAY events emerged “more convinced that manufacturing provides careers that are interesting and rewarding,” and 64 percent of surveyed students said they “were more motivated to pursue a career in manufacturing.” That’s potentially 171,000 new members of a next-generation manufacturing workforce.

Hand-in-hand with a national image

program, printers must invest in their local communities. National awareness to the right market, coupled with a proactive community outreach that focuses on where potential employees will come from, can change the cultural mindset of local communities to view print as a career choice.

ALL EMPLOYEES IN MANUFACTURING AND PRINTING



## PRIMIR Research

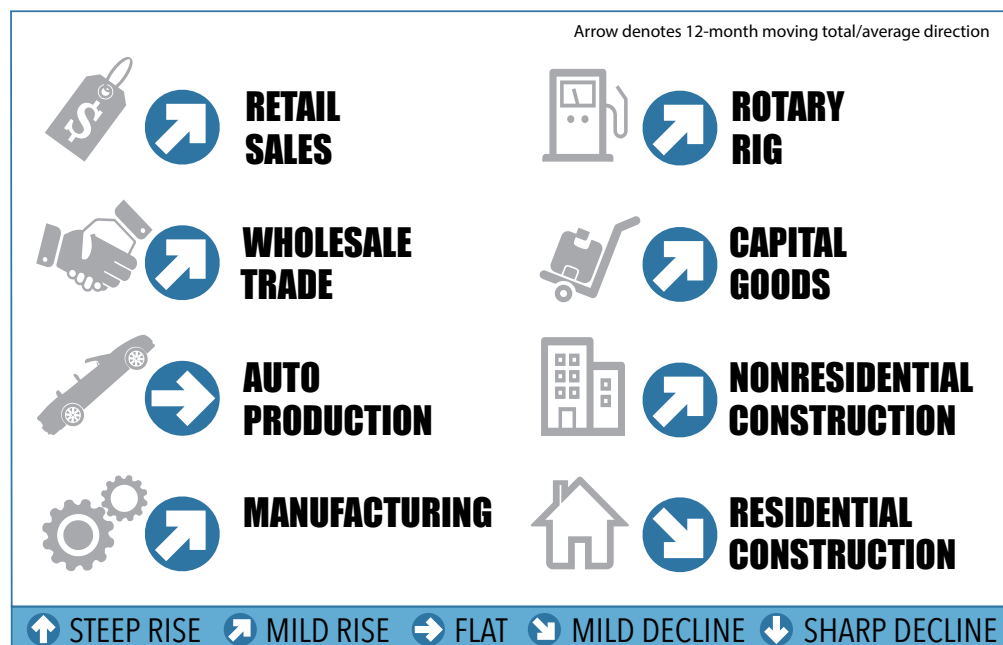
This information is excerpted from the PRIMIR research study, “Attracting New Talent to the Print Industry.” Using historical and recently collected data, the study looks at trends in hiring, recruitment, retention, and retirement in the printing industry workforce. The goal is to help owners, executives, and educators understand the workforce issues confronting the industry. Possible solutions are presented, including educational partnerships, non-traditional educational paths, benchmarks from similar industries, and the role of company culture on employment.

## GET MORE

PRIMIR research studies, including the balance of this one, are available to APtech members at [primir.org](http://primir.org). For more information, contact Ken Garner, [kgarner@apttech.org](mailto:kgarner@apttech.org).



## Economic Snapshot



## Macroeconomic Outlook

- U.S. Total Industrial Production transitioned to the back side of the business cycle. The pace of rise is slowing. Since your business trends with the industrial economy, implement strategies for handling business cycle decline.
- Depending on your market, you may need to push different products to outperform the business cycle. As consumers and businesses become increasingly price-conscious, lower-cost and more efficient offerings will likely become more attractive options.
- U.S. Industrial Production will contract during the latter half of this year. To prepare, identify areas to reduce costs. Although cutting labor expenses is a typical strategy, the upcoming recession will likely be mild and many firms are already operating at a shortage of labor. You will need skilled employees to handle growth expected through much of 2020 and 2021. Focus on employee retention even as the business cycle turns downward.

### Long-Term View

2019: Weaker Second Half

2020: Mild Growth

2021: Growth

## Leading Indicators

- Following a recent data revision by the Federal Reserve Board, U.S. Industrial Production is in Phase C, Slowing Growth.
- Indicators suggest that Production will be on the back side of the business cycle through at least the end of this year.
- The ITR Consumer Activity Leading Indicator™ suggests that the retail sector may not see as steep a decline as the industrial sector in 2019.

	1Q19	2Q19	3Q19
ITR Leading Indicator™	●	●	●
ITR Consumer Activity Leading Indicator™	●	●	N/A
U.S. Leading Indicator	●	●	●
Purchasing Managers Index	●	●	●
U.S. Total Capacity Utilization Rate	●	●	N/A

Green denotes that the indicator signals cyclical rise for the economy in the given quarter. Red denotes the opposite.

## Industry Analysis

### Manufacturing

- Total Manufacturing Production was up 2.7% in April, from a year ago.
- Production tentatively transitioned to a slowing growth trend.
- The manufacturing sector will contract mildly in the latter half of this year and in early 2020.

### Capital Goods New Orders

- Nondefense New Orders were up 5.3% in April, from a year ago.
- New Orders will rise at a slowing pace into mid-2019 before declining into 2020.
- Defense New Orders were up 17.3%.

### Retail Sales

- Retail Sales during the 12 months through February were up 4.6% from a year ago.
- Retail Sales will rise at a slowing pace into mid-2020.
- The consumer sector will avoid recession during this business cycle.

### Get More

This data is excerpted from the *APTech Advisor*, a quarterly report produced in conjunction with the Institute for Trend Research (ITR). APTech offers a top-level report to all members and a detailed report to members participating in our market data program. Visit [tinyurl.com/aptechadvisor](http://tinyurl.com/aptechadvisor).

# You know our PRINT event, do you know our research?

Remember those research studies that were hundreds of pages long? Just having one in your hands made you feel like you had one up on your competition. But did you actually read them cover to cover?

APTech's new Business Intelligence series is just what the industry ordered. The relevant and useful content you've come to expect in shorter more manageable studies.



To learn more about the Business Intelligence series and our research visit [www.PRINTtechnologies.org/BISeries](http://www.PRINTtechnologies.org/BISeries)

Association for  
**PRINT**  
Technologies

Remember when providing  
value to a client meant hand-  
delivering proofs at 3AM?  
How cool was that?



The companies doing well in our industry are the ones coming up with innovative products designed to meet the needs of our customers in today's fast-paced digital world. They're not looking back to the way things were. They're looking forward to the way things have to be. And they're thriving. At PRINT® 19, you'll meet the creative minds behind some of these exciting new companies, and hear from speakers including Nicholas Thompson, editor-in-chief of *Wired* magazine, addressing the future of business. The discussion will be frank, honest, and maybe even uncomfortable. But it might also be exactly what you need to hear in order to survive. See you there.



**PRINT® 19**

OCTOBER 3-5 | Thursday-Saturday | McCormick Place North | CHICAGO

Register now at [PRINTevent.com](http://PRINTevent.com)