

THE ILLINOIS MANUFACTURER

FIRST QUARTER 2021



Tammy Duckworth



John Shimkus



Jessica Ashley Garmon



Diana Sharpe



Dick Durbin



Jay Timmons



Christoph Schemione



Mark Denzler



Rob Karr



Mark Maxwell



Aneesa Muthana



Cindy Tomei



Dr. Richard Nettles



Mike Bost



Darin LaHood



End Meeting



Who can help customize my energy purchasing decisions?

Constellation is the easy answer to complex energy purchasing decisions. As the endorsed energy supplier to the IMA, we make it easy to navigate and select from a full array of energy strategies. With intelligent insights, an unparalleled view of market trends and tools that will make energy purchasing clearer and more manageable, find out why Constellation is considered **America's energy choice®**.

To learn more about participating in the IMA Energy Program, please contact Rich Cialabrini at richard.cialabrini@constellation.com or **847.738.2510**.



Constellation®

An Exelon Company

constellation.com/IMA



ILLINOIS
MANUFACTURERS'
ASSOCIATION

© 2020 Constellation Energy Resources, LLC. The offerings described herein are those of either Constellation NewEnergy-Gas Division, LLC or Constellation NewEnergy, Inc., affiliates of each other and ultimate subsidiaries of Exelon Corporation. Brand names and product names are trademarks or service marks of their respective holders. All rights reserved. Errors and omissions excepted.

Constellation is the endorsed energy supplier of this association which receives compensation for its promotional and marketing efforts from Constellation.

TABLE OF CONTENTS

FIRST QUARTER 2021

MISSION STATEMENT

The Illinois Manufacturers' Association is the only statewide association dedicated exclusively to advocating, promoting and strengthening the manufacturing sector in Illinois. The IMA is the oldest and largest state manufacturing trade association in the United States, representing nearly 4,000 companies and facilities.

CHAIRMAN

Linda McGill-Boasmond

PRESIDENT & CEO

Mark Denzler

EDITOR

Anastasia Lowenthal

The Illinois Manufacturer is published quarterly by the Illinois Manufacturers' Association. All rights reserved. The title, *The Illinois Manufacturer*, is a trademark of the Illinois Manufacturers' Association.

Copyright 2021© Illinois Manufacturers' Association. Reproduction of all or any part is prohibited except by written permission of the publisher. Published articles do not necessarily reflect the views of the magazine or its publisher. Information in this publication should not be substituted for advice of competent legal counsel.

For address changes and adjustments, write to *The Illinois Manufacturer*. Presort standard postage paid at Bloomington, IL. Postmaster: Send address changes to *The Illinois Manufacturer*, 220 East Adams Street, Springfield, IL 62701. Telephone: (217) 522-1240.

If you have any questions, please contact Anastasia Lowenthal, Editor and Manager of Publications at alowenthal@ima-net.org, or (217) 718-4207.

Share Your Company News with the IMA . . .

News information, press releases and articles may be sent to Anastasia Lowenthal, Editor and Manager of Publications, Illinois Manufacturers' Association (IMA), 220 East Adams Street, Springfield, IL 62701, or alowenthal@ima-net.org



FROM THE IMA

The Value of the IMA.....	4
Women in the Workforce.....	6
Employers Cash in with the Apprenticeship Tax Credit.....	16
2020 IMA Annual Luncheon.....	23

INNOVATION, TECHNOLOGY & SECURITY

Artificial Intelligence: Finding a Simple, Effective Approach.....	8
The Seven Pillars of a Modern Supply Chain.....	14
Manufacturers' Other Pandemic Problem: Cybersecurity.....	20
Improving Workplace Safety Through Wearable Technology.....	27

BUSINESS DEVELOPMENT

When Lean Isn't Enough, What Then?.....	10
Three Things Made Clear by Illinois Manufacturers' Response to the Pandemic.....	17
Expand Your Business Internationally with the U.S. Commercial Service.....	22
Start-ups and Students: Exploring Future Business Opportunities.....	26

GOVERNMENT REGULATION & LEGISLATION

Can Employers Require Employees to Get a COVID-19 Vaccine?.....	12
Employment Law Changes Manufacturers Should Prepare for Under the Biden Administration.....	24

ENERGY & ENVIRONMENT

How Much Energy Do Small Businesses Use?.....	18
---	----

RECOGNITIONS

Members in the News.....	28
New IMA Members.....	30

The Illinois Manufacturer is underwritten by Constellation – an Exelon Company

THE VALUE OF THE IMA

MARK DENZLER, PRESIDENT & CEO



The economic and health crisis created by the raging global pandemic ensures that 2020 will go down in the annals of history and will not soon be forgotten.

But unlike many other events such as the terrorist attacks on September 11 or the explosion of the Challenge Space Shuttle, this year's unforgettable virus storyline has lasted for months on end. We're only now starting to see the light at the end of the tunnel thanks to groundbreaking vaccine and therapy discoveries from scientists and researchers working for innovative manufacturers.

This has been the most humbling, challenging, and rewarding time in my professional career and there is one particular day that is seared into my memory. Friday, March 21. Late on a Friday afternoon, Illinois Governor JB Pritzker unilaterally imposed a "stay at home" order taking effect barely 24 hours later that shuttered thousands of businesses across Illinois impacting lives and livelihoods.

As I sat in my office that afternoon, the IMA was flooded with calls and emails from not only IMA member companies but manufacturers across the state and nation who picked up media reports. Minutes later, the IMA notified our members that the Governor's Executive Order contained a broad exemption for manufacturers that was drafted by the Illinois Manufacturers' Association so that our industry could continue operating and making critical products to move our nation forward. For hours on end, I along with our team, responded to these requests until midnight and throughout the weekend to answer questions and alleviate concerns.

Our essential manufacturing language became the gold standard and was ultimately adopted by nearly a dozen states to allow manufacturers and their supply chains to keep operating. I've been asked by colleagues around the nation about our success in a state that is often hostile to job creators. The answer is in our strength as a trusted advocate and building long-standing relationships with lawmakers. The IMA had been in private negotiations with the Administration for a week and our ability to have 500+ manufacturers sign a letter in support of the essential manufacturing designation was crucial.

Throughout this year, the IMA team has been on the front lines alongside our member companies working with leaders from the White House to the State House. The IMA co-chaired the Governor's Equipment Task Force and chaired Chicago Mayor Lori Lightfoot's B2B Team that drafted reopening guidelines.

We were forced to sue the Governor and his Workers' Compensation Commission when they filed illegal rules that would have forced employers to pay workers' compensation for any employee diagnosed with the virus regardless of whether it was contracted at work. The judge agreed and we won in court saving employers hundreds of millions, or even billions of dollars.

Our team conducted nearly 100 seminars and programs on disparate topics ranging from the CARES Act and Paycheck Protection Program to environmental or tax policies. We created a new Healthy Manufacturing Certificate and released a Manufacturing Safety Guide so that companies could ensure that they met all relevant national and state guidelines to protect their employees, customers, and communities.

Our team was honored to be recognized as "One of 100 Associations Saving the World" by the American Society of Association Executives for our work during the pandemic. But the accolades really go to the women and men working on factory floors who are truly making a difference on the front lines. Our team is more grateful to hear comments from member companies this year that show our work is valued and meaningful.

"I just wanted to drop you a note and thank you for everything the IMA has done, and continues to do. From the very beginning, you helped manufacturing stay open, made sure we had up-to-date information, held several seminars, and provided an extra, daily newsletter with important COVID news. If anyone is on the fence about joining the IMA, I would personally tell them it is worth every penny, and a lot more!!!"

"I really think you folks are hitting it out of the ballpark with all the timely and informative information being sent out. You folks are really on top of matters and a big THANK YOU goes out for all your efforts!"

"I have to say that the IMA is doing an absolutely wonderful job getting us the help we need here. This has been difficult to navigate but you guys have certainly helped to clear the muddy waters! You have my thanks and gratitude!"

Let's face it – selling a membership in a trade association is getting more difficult every year. Changes in demographics, combined with the Internet and mobile devices, make it easier for the next generation of leaders to get information at the drop of a hat.

Our results and accomplishments in 2020 show the value of organizations like the Illinois Manufacturers' Association. We are actually in the arena getting the results. Thank you for your investment in the IMA and your commitment to our economy. If you know of a manufacturing company (customer, supplier, or neighbor) that is not an IMA member, please let us know. After all we are all stronger together! ♦



**MANUFACTURING
STRONG**

WOMEN IN THE WORKFORCE

CINDY TOMEI, VICE PRESIDENT OF
MEMBERSHIP GROWTH & ENGAGEMENT



The obvious impact of the COVID-19 crisis on the workforce has been dramatic and swift. We can all relay stories of friends who have been impacted, favorite restaurants trying to stay open, and small businesses we might not see again. Manufacturers have been impacted too, but many are deemed essential. While the impact has been significant to manufacturers, perhaps, and depending on the industry, it isn't as drastic.

In spite of all of this, the lack of skilled workers rages on. According to the Bureau of Labor Statistics, in October 525,000 manufacturing jobs nationwide were unfilled.* Those of us familiar with the constant quest in finding talent for manufacturing jobs aren't surprised by this and we all know there are many reasons why this occurs.

One demographic especially hit hard is women. At the beginning of 2020, women represented 49 percent of the workforce; yet they represented 55 percent of the initial job losses in the Spring. It is estimated that out of the 1.1 million people who dropped out of the workforce in September alone, 80 percent were women, four times the amount of men. That equated to roughly 860,000 women nationwide. During the financial crisis of 2008, men were significantly impacted. What makes this go around so unique is the business lockdowns and school closures necessitated by COVID-19.

There are many reasons this go around is impacting women more significantly than men. Generally speaking, women work in the service sector in higher numbers than men; women with children may still be the main caregivers and with schools closed, they need to be home; the lack of safe and reliable childcare has hit families hard, especially single parent households; and plain old economics in dual income households – who makes the most money keeps working.

While this may seem like a women's issue, with many dual income households, this is a family issue. Some economists predict the workforce exodus could set women back a generation in terms of earning power and economic contribution.

860,000 women out of the workforce in one month.

525,000 manufacturing jobs unfilled.

How can manufacturers reach out to this group? It will take creative measures and perhaps a paradigm shift on how work gets done. Throughout all of the COVID-19 programming the IMA has done this year, one constant among HR professionals was 'it's not how the work is getting done, it's the quality of the output'. Granted, an office environment lends itself to more flexibility in how work gets done. What are some creative ideas for the production floor that requires more structure, has daily goals and has to be done on site?

Annie Mouhapt, CEO of Mohop, mohop.com, plans to allow at-home assembly; designed to specifically target women at home either during the COVID-19 crisis or permanently. Is there anything in your operation that can be assembled/prepared for shipping/packaged elsewhere with proper planning and allocation of necessary resources?

Rethinking shift hours may reach a segment of potential workers that previously wouldn't consider a manufacturing position. As we travel down the COVID-19 tunnel, what about a 6:00 pm – Midnight shift to appeal to parents handling remote learning right now? When schools are universally open again, what about a 9:00 am – 3:00 pm shift? Unique opportunities like this may appeal to a viable workforce.

Safe and reliable childcare will always be a critical component of getting more women in the workforce. Reputable daycare organizations have closed or dramatically reduced their capacity for safety reasons. What can your company do to assist your employees in this area? Build a bank of trusted providers that you can give your employees. Can your company facilitate a daycare co-op of employees, former employees and perhaps employees' families? Reaching out to your current workforce for creative solutions to this problem could lead to an option that makes you an employer of choice.

The time will come when women who have been displaced from the workforce will look to come back in. Out-of-the-box approaches to recruiting women will be the distinguishing factor in setting your company apart from others who don't consider unique recruitment efforts or workplace situations to attract this type of employee. ♦

Cindy Tomei



YOU DESERVE THE BEST

IT'S TIME TO MAKE THE CALL.



You work hard for your business. We work hard for you. Our state-of-the-art used oil and antifreeze services are closed-loop processes specifically designed to keep your work zone and the environment safe and free of harmful waste. Our team of first-class, highly skilled experts know how to get the job done fast and maintain the highest level of safety and full environmental compliance. Don't wait another day. For your free quote, please contact Dean Popovich at 877-938-7948. With over 20 years experience in the environmental service industry, Heritage-Crystal Clean is the name over 90,000 customers trust to get the job done right.

ARTIFICIAL INTELLIGENCE: FINDING A SIMPLE, EFFECTIVE APPROACH

VERTICAL, INCORPORATED



The ongoing and pervasive talk about Artificial Intelligence (AI) may leave you with more questions than ever. It's a complex topic addressed from multiple perspectives. One thing that's clear, however, is that AI is becoming an integral part of the smart factory. In fact, your plant will not thrive in the next 10 years if you don't begin adopting a smart factory strategy that uses data analytics and AI practices.

The smart factory evolution, referred to as the Fourth Industrial Revolution (4IR), has raised the stakes in productivity and efficiency. A smart factory builds digitalization into every step, integrating data analytics, the Internet of Things (IoT), and AI into its processes. While this integration may be challenging, the payoff is significant.

A Revolution in Revenue Growth

Use of 4IR innovations will generate \$37 trillion in value by 2025, according to McKinsey & Company. The analysis is part of the World Economic Forum's on-

going research project called the Global Lighthouse Network. Leaders in this network are incorporating smart factory technologies into their operations at breakneck speed and shared their lessons learned in research published in January 2020.

These findings reinforce research about how AI boosts industry profits and innovation that was conducted by Accenture and Frontier Economics in 2017. The study predicted that businesses applying AI in 2017 could increase profitability by an average of 38 percent and labor productivity 40 percent by 2035.

The gap between manufacturers who embrace smart factory AI and those who don't will widen exponentially, delineating clear winners and losers. You can take steps to ensure that you're not on the losing side of the gap.

Understanding Artificial Intelligence

Let's start with a clear definition. AI is the creation of human-like intelligence using computer-based algorithms. In other words, AI is intelligence applied by

machines, not humans. The Oxford Dictionary identifies AI as the "theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages."

The term was coined in 1956 at the two-month-long conference Dartmouth Summer Research Project on Artificial Intelligence at Dartmouth College in Hanover, New Hampshire. It was the first time Allen Newell, Cliff Shaw, and Herbert Simon presented the proof-of-concept program Logic Theorist, which was designed to mimic the problem-solving skills of a human. The conference launched the study, development, and funding of AI.

While much has been done since then, there is not one established, unifying theory or model that defines AI or guides its research. That has contributed to some of the confusion. Here are five common components, but don't be surprised if you see additions or subtractions on other lists:

- **Machine Learning:** Machine Learning (ML) is at the core of AI. ML enables

computers to automatically learn from information and then apply that learning. AI systems are based on three types of machine learning: supervised learning, unsupervised learning, and reinforcement learning.

- **Deep Learning:** Deep learning is a form of unsupervised learning. Unlike typical machine learning, it uses artificial neural networks to imitate how humans learn and think. As technology expert Kate Reyes wrote for Simplilearn: "Until recently, neural networks were limited by computing power and thus were limited in complexity. However, advancements in Big Data analytics have permitted larger, sophisticated neural networks, allowing computers to observe, learn, and react to complex situations faster than humans. Deep learning has aided image classification, language translation, speech recognition." Note: According to some, deep learning includes the disciplines of natural language processing (NLP) and cognitive computing; however, others break them out as separate components of AI.

- **Neural Network:** Investopedia's James Chen explains that a neural network is a series of algorithms that tries to recognize underlying relationships in a set of data. The algorithms follow a process that mimics the way the human brain operates. A neural network can adapt to changing input, so it can generate the best possible result without needing to redesign the output criteria.

- **Robotics:** Thanks to movies such as Star Wars and AI, robotics is the first thing people often think when AI comes up. Note: many experts fiercely argue that robotics is a separate technology from AI and should not be considered a subset of AI. Regardless of its ancestry, robotics serves a very distinct role in AI's future. While robots replicate human actions, AI replicates human thought. Combining AI and robotics puts machine learning and deep learning into action, replacing many physical activities done by humans or animals.

- **Computer Vision:** Computer vision is the technology that helps computers to see and understand content in photographic images, videos, and real life. While not yet perfected, it's generating a lot of attention. It's being used in manufacturing to support predictive maintenance and defect reduction.

It All Starts with Data

However you define AI, data is at its roots. Intelligence, whether artificial or biological, needs information to be of value.

Chances are you already have a connected factory that is collecting and analyzing data, or you are in the planning process. But you don't need to wait until your factory is fully connected and making the most of big data to begin using AI.

Most experts recommend that you start small, looking for places where AI can be easily implemented and generate real results. Applying AI to make processes more efficient and provide true support to human tasks is where you can find immediate ROI. Taking an incremental approach eliminates the risks of large AI projects that can fail and cost millions of dollars.

Where is AI's Value in Industry?

The value of AI lies in its ability to address business issues, according to the article Artificial Intelligence for the Real World in the January 2018 Harvard Business Review. The authors identify three areas where AI can be effective: automating business processes, gaining insight through data analysis, and engaging customers and employees.

Process automation – automating digital or physical tasks – provides a logical starting point for applying AI to manufacturing. From product design, to online production, to supply chain management, AI can provide significant returns. Here are a few examples of how AI can be applied to improve your manufacturing processes:

- **Descriptive Analytics:** AI can help you understand what happens at each moment in your manufacturing process and identify opportunities for improvement. AI can analyze operational parameters, the environment, and how the conditions impact your product.

- **Predictive Failure Analysis:** By collecting and analyzing data about your products, how they are tested and how they perform, AI can identify the probability of failure and where in your products' design and development additional attention needs to be given.

- **Predictive Maintenance:** Using AI's machine learning, you can help prevent unplanned downtime. With data analytics and statistical models, AI can monitor equipment and predict failures, equipment effectiveness, production quality, and safety risks.

- **Augment Production Design:** You can increase production capacity and reduce material consumption by using AI to make better decisions in production design. AI can also simulate product design to identify multiple areas of improvement.

How to Begin Thinking About AI for Your Company

When and where you adopt AI depends on the unique factors of your plant. Guidance on how to begin can be found in the 2017 research report by Accenture and Frontier Economics. It includes eight strategies for implementing AI.

- **Develop AI strategy that appeals to leadership:** Generating value from AI will require buy-in, recognition, and action from your company's top leadership. Start by developing a road map and identifying tangible benefits for the C-suite.

- **Add HAIR to HR:** Recommend expanding the Chief HR Officer's role beyond managing human employees to include managing human-machine interaction – or Human AI Resources (HAIR).

- **Learn with Machines:** Adopting AI changes the status quo. To absorb the change, adjust the nature of your plant's learning and employee training, particularly in the area of agile skills development.

- **Appoint a chief data supply chain officer:** This leader will provide the oversight needed to effectively construct an integrated, end-to-end supply chain for data.

- **Create an open AI culture:** You can't implement significant change without addressing your organization's culture. For AI to work well, there needs to be trust, openness, and transparency so people can embrace their new relationships with machines.

- **Take the crowd into the cloud:** Begin developing a cloud-based data plan if you haven't already. Combining crowd-sourced data in the cloud with AI capabilities is the next phase of innovation.

- **Step beyond automation:** Once your initial AI processes are in place, look beyond automation for opportunities to harness the intelligence of dynamic, self-learning, and self-governing machines.

- **Measure your return on algorithms:** Unlike traditional devices that depreciate over time, AI assets gain value. CFOs will need new financial metrics to properly assess the "Return on AI," which could include the value generated from each algorithm compared to a combination of initial outlay and ongoing costs.

Implementing AI into your operations is an adventure that takes knowledge, planning, strategy and creative thinking. It's an exciting investment and clearly time to jump in. ♦

WHEN LEAN ISN'T ENOUGH, WHAT THEN?

THE KEYSTONE GROUP

Thirty-five years ago, I was part of a grand experiment. I was a first line production supervisor in an automotive assembly plant, implementing this strange new thing called the Toyota Production System (TPS). We were still fighting with the union every day, trying to get employees to show up for work, and dealing with constant quality problems. How could working as a team possibly ever happen, let alone continuous improvement and elimination of waste? It wasn't easy, but it did work. It was an unforgettable transformation – something that would later become Lean Manufacturing.

Decades later, Lean has been adopted as a core strategy at numerous successful companies with excellent results. However, some “Lean” organizations still struggle. Everything looks fine on the surface, with fancy display boards all over the plant, shadow boards where tools are supposed to hang, and a website that brags about continuous improvement, all parts of Lean. Yet quality problems persist, on-time-delivery is poor, and earnings are disappointing.

Lean Obesity

Lean, at its core, is a management philosophy and mindset, supported by a robust set of tools. It streamlines activities around what brings value to the customer, with relentless focus on continuous improvement and elimination of waste. How, then, can Lean become heavy?

Consider a factory that starts each shift with crew meetings, reviewing six visual display boards created by the last Lean task force. People nod their heads when the supervisor talks, but their eyes are glazed over with all the information – none of which leads to any actions or helps them do their jobs better. Two operators raise their hand to say, “Our machines are down because we’re waiting on work orders from Scheduling,” but they’re told to be patient. The person responsible for distributing the work orders also updates all the displays, and he’s so busy updating the displays that work orders sometimes fall through the cracks. He gets in big trouble if the displays don’t look nice,

but no one seems to notice if a couple of machines are down. Somehow, process and appearance just became more important than results.

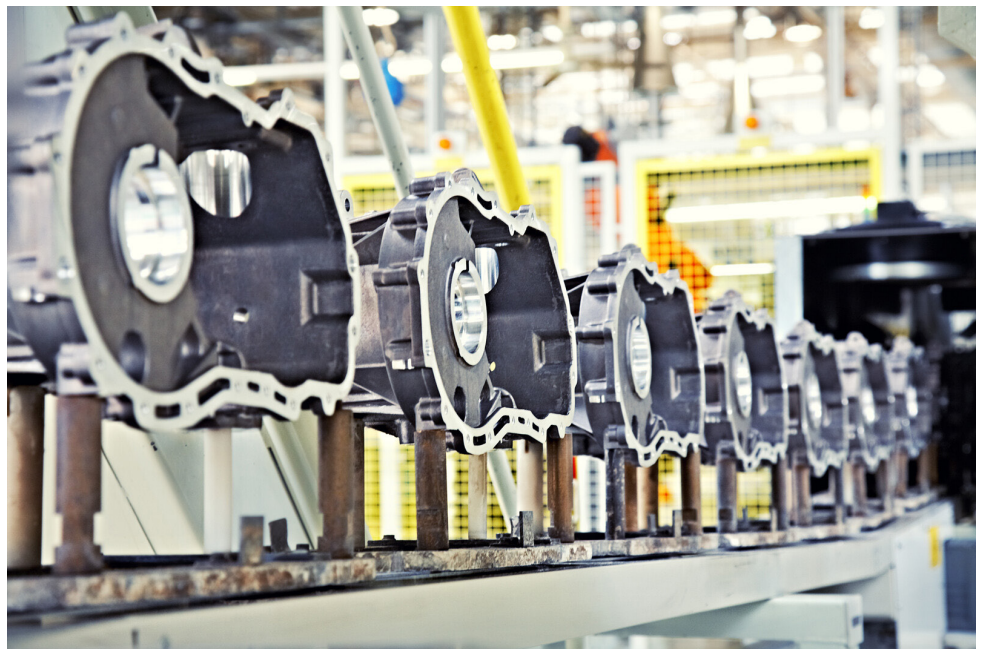
This is just one example of how Lean processes and meetings, in excess, can become burdensome. It’s important to balance the resources required to maintain each process with the benefits obtained. Every now and then, one should audit all Lean processes and modify/prune those that don’t have impact. One should also avoid using every tool in the Lean toolbox, when all that’s needed is a pliers and a screwdriver. Lastly, remember that Lean enables results, but isn’t the result in and of itself. Keep Lean lean.

Continuous Improvement – Discontinuously!

Think about the underlying meaning of the word lean, and ask yourself, “What’s more effective, a diet/exercise burst every January, or a healthy lifestyle every day?” Dr. Deming, the father of Kaizen (Continuous Improvement) instilled the principle that the one-time efforts would just fade away if they were not maintained. Some companies hold “Kaizen Events” once or twice a year, advertise them widely, and as-

sume Kaizen is alive and well. However, the underlying fabric of continuous improvement, the intrinsic belief that “We can change things for the better,” every day, gets lost. Benefits don’t hit the bottom line.

Picture a big, complicated machine that makes paper. For over a year, the production team has been unable to increase volume, in spite of great speeches and several Kaizen initiatives. Production is mad at maintenance for not fixing the machine. Maintenance is mad at production because they don’t provide the information or time needed to find the root cause and fix it. Then, management implements a novel approach. Every time the machine breaks down, the operator documents exactly what happened and communicates with maintenance. Maintenance analyzes the data and works with the operators to find the root cause. Management provides reinforcement as well as machine time and money to fix the problems. The machine starts running more reliably, day-in, day-out. Next, the team focuses on speed. When the machine tops out at 600 ft/min, they ask why it can’t run faster. They try a new starch formula which increases speeds to 615, then to 630 and 650 ft/min. Day after day, the little improvements in uptime



About the Author: Brian Haun is a Senior Principal at The Keystone Group. He may be reached at bhaun@thekeystonegroup or (312) 450-8942.

and speed add up. Everyone gets pizza when a new production record is set, and management is spending lots of money on pizza. Maintenance and production now eat at the same table. Earnings start going through the roof, and so does morale.

Yes, this sounds like a fairy tale, but it's not. It starts with a continuous improvement mindset, one that never settles for status quo and thrives on the desire to get better every day. It takes persistence and problem-solving discipline (the Plan-Do-Check-Act cycle in Lean). It also recognizes the small wins that turn into big victories. As the old saying goes, "The best way to eat an elephant is one bite at a time."

Simply Lean

Lean manufacturing, at its core, is not complicated. Especially in the early days of TPS, we were amazed with how much of it was actually common sense. Visual displays and Kanban replaced complicated reports. People on the production floor worked alongside engineers to solve problems. Intense focus was placed on training, recognizing that capable people, working together, could accomplish anything. Over the years, though, Lean has evolved into more and more tools and a variety of "brands," each with its own flavor. It has become complicated, albeit unintentionally.

Picture the following situation: A manufacturing plant has been getting quality complaints from angry customers for the past year. The quality control department does a great job creating a defect tracking process and applying the latest statistical techniques. Reports are generated and control charts posted, but months later, customer complaints continue. The General Manager decides to go back to Lean basics. Every time a bad part comes back from a customer, it goes on the "Quality Focus" table in the lunchroom for everyone to see. Within three days, the operator is involved in root cause analysis and corrective action is taken and publicized on the table. The inspection sheets used at the start of every job are simplified from 46 check items to the 15 responsible for 99 percent of the defects. And, the GM walks the floor periodically and personally does quality checks, congratulating operators for doing a good job. Within weeks, quality complaints are rare.

Visibility, accountability, timely cor-

rective action, leadership by example, recognition. Simple, eh? The key is to recognize that simple, well executed, wins the day every time.

Gumby Gemba

Gemba is a Lean principle that means "the actual place." It refers to management going to the source, to see for oneself where it really happens. In manufacturing, that usually means the plant floor. Gemba is a fundamental building block of Lean leadership that makes Lean real, makes it personal. It's the leader that walks the plant floor and stops to talk with operators, and even the person who cleans the restrooms. He listens more than talks, and always observes. Instead of trusting hearsay or reports, he goes to see for himself. He's in touch with reality.

While this is the goal, Gemba some-

THERE ARE NO EASY ANSWERS WHEN IT COMES TO "RIGHT PEOPLE, RIGHT JOBS, RIGHT SITUATIONS." IT STARTS WITH HIRING THE RIGHT PEOPLE IN THE FIRST PLACE, AND RELENTLESS FOCUS ON DEVELOPING THOSE YOU ALREADY HAVE.

times loses its original intent. Let's look at a story that brings the point home. The plant leadership team in a factory goes on a Gemba walk every morning at 7:45. They walk around the plant as a group and look at the machines running. However, instead of listening to operators they mostly talk to each other. On top of that, the crews know when the bosses are coming by and have their props ready, making sure everything looks perfect. The managers check off "daily rounds" on their personal to-do list and go back to the office. After a long day of emails and meetings, they go home exhausted. Ever happen to you?

Think back (if you're old enough) on the animated clay figure Gumby. He was fun to watch, but he wasn't real. If we aren't careful, Gemba can become

Gumby. We have to go to the actual place, but in a way that makes what we see real. That means connecting with people, removing the filters, acting on what we see, and following up with the same people the next time around.

Right People, Right Jobs, Right Situations

Let's face it. Getting the right people in the right jobs is one of the hardest challenges leaders face. It's equally difficult to tell if it's the person, or an untenable situation that causes a problem. Lean, when implemented correctly, does a great job of addressing the situation part, setting people up for success. At the end of the day, though, when the wrong people are still in the wrong jobs, Lean may not be enough.

Picture a factory that suffers from Lean Obesity and Discontinuous Improvement. Employee turnover and ongoing machine problems make production totally unreliable. The scheduler is blamed for missed due dates and he's about to get fired. He's actually the third scheduler in the last year – the prior two left for other jobs. The plant manager, an able administrator with an authoritarian style, spends most of his day in the office. He is quick to blame others, and hence people are reluctant to bring problems forward, let alone take corrective action. In short, they don't trust him. Two simple questions: What are the odds that continuous improvement and teamwork will prosper with that leader? On the other hand, can any scheduler succeed in this situation?

There are no easy answers when it comes to "Right People, Right Jobs, Right Situations." It starts with hiring the right people in the first place, and relentless focus on developing those you already have. It also means creating a winning culture, with processes and systems that enable the right people to succeed. The journey is never ending, a continuous improvement effort in and of itself.

Lean remains a superior management philosophy, provided the pitfalls are avoided. Periodic reflection and assessment is critical, whether it's done internally or with the help of an objective outside resource. Keeping Lean lean, simple, real, and continuously improving with the right people is the key. ♦

CAN EMPLOYERS REQUIRE EMPLOYEES TO GET A COVID-19 VACCINE?

BARNES & THORNBURG, LLP



It has been about a year since the COVID-19 global pandemic began to ravage through the United States. As of early December, more than 13 million people in the United States have contracted the virus, and more than 270,000 people have died. These numbers will surely increase since tens of thousands of new cases are being reported daily nationwide. Three major pharmaceutical companies, AstraZeneca, Moderna, and Pfizer have announced significant developments of a COVID-19 vaccine. With the possibility of an available vaccine on the horizon, many employees have been left to wonder, “Can my employer force me to get a COVID-19 vaccine?” The

answer to that question, however, may not be so simple.

Both the Equal Employment Opportunity Commission (“EEOC”) and the National Labor Relations Board (“NLRB”), the two primary federal agencies that deal with employment issues, have yet to confront mandating vaccines within the workplace as they pertain to COVID-19. The EEOC has emphasized that an employee may be exempt from a mandatory vaccine if the employee has a disability covered by the Americans with Disabilities Act (ADA) that prevents them from taking the vaccine. An employer is required to provide a reasonable accommodation for an employee’s disability unless the employer can

establish “undue hardship.”

From the beginning of the pandemic, the EEOC has recognized COVID-19 meets a higher threshold known as the “direct threat standard,” which allows employers to conduct more extensive medical inquiries than normal. Given the number of people infected and who have died, the direct threat standard may give employers a higher likelihood of showing business necessity and undue hardship to ensure the health and safety of its employees is maintained. Nevertheless, even with this higher threshold, the EEOC has recommended that employers should generally encourage employees to get a vaccine, but not mandate it. Employers will soon

About the Authors: David Ritter is a Partner at the law firm of Barnes & Thornburg LLP. He may be reached at david.ritter@btlaw.com or (312) 214-4862.

Cristina McNeiley is an Associate at the firm. She may be reached at cristina.mcneiley@btlaw.com or (312) 214-2104. David and Christina’s bios can be found at [btlaw.com/en/people](https://www.btlaw.com/en/people)

have to decide to what extent to “encourage” its workforce to vaccinate.

Employees may also be excused from the vaccine mandate under the religious accommodation provision of Title VII of the Civil Rights Act of 1964. Under this provision, an employee may be exempted if taking the shot would violate his or her sincerely held religious beliefs, practices, or observances. Although an employer is also required to reasonably accommodate an employee’s sincerely held religious beliefs, the applicable *de minimis* standard is lower than the ADA standard. Given the direct threat of health and safety to employees, employers will likely be able to meet this standard.

Overall, if an exemption under either the ADA or Title VII is requested by an employee, employers should engage in a meaningful and interactive dialogue with the employee to best determine whether a reasonable accommodation would enable the employee to continue to perform their essential job functions without compromising the safety of other employees, patients or customers. Potential accommodations for employees under both the ADA and Title VII provisions include, but are not limited to, additional personal protective equipment, moving the employee’s workstation, the use of physical barriers, a temporary re-assignment, teleworking, or a leave of absence.

Implementing a mandatory vaccination policy for COVID-19 within the workplace is bound to have challenges. One challenge an employer could face is asking employees to choose between taking a vaccine and keeping their job. Are companies willing to discharge employees or place them on indefinite unpaid leave if they refuse to vaccinate? Thinking about these tough questions will allow an employer to better determine whether they want to create a mandatory vaccination policy or simply encourage its employees to get vaccinated.

Employers with collective bargaining agreements should consider their employee collective bargaining agreements and the legal obligations under the National Labor Relations Act to bargain with the union representing their employees over terms and conditions of employment. Most importantly, employers must determine whether or not their collective bargaining agreements

permit or prohibit the employer from even implementing a mandatory vaccination policy for its employees. Absent a specific authorization or prohibition in the collective bargaining agreement, the employer should next consider whether or not the employer may unilaterally implement such a policy without discussing the issue with the union pursuant to a management rights clause or comparable provision that broadly authorizes the employer to implement reasonable new work rules or policies.

THE COVID-19 PANDEMIC HAS BROUGHT ON CHALLENGING TIMES FOR EMPLOYERS AND THE COUNTRY AS A WHOLE. EMPLOYERS ARE ENCOURAGED TO GIVE THOUGHTFUL CONSIDERATION AS TO WHAT WORKS BEST WITHIN THEIR SPECIFIC WORK ENVIRONMENT.

In the absence of a grant of such authority, an employer will likely be required to bargain with the union over implementation of a mandatory vaccination policy. The NLRB has previously held that a hospital’s implementation of a flu prevention policy for its unionized nurses, which included a requirement that nurses take a specific anti-viral drug, or wear a protective mask at all times, was a mandatory subject of bargaining under the NLRA.

Under the Occupational Safety and Health Administration (“OSHA”) law, employers have a responsibility to provide a safe workplace to their employees. Under OSHA’s COVID-19 Control and Prevention Guidance, employers should continue to assess the hazards to which their workers may be exposed; evaluate the risk of exposure; and select, implement, and ensure workers use controls to prevent exposure. With this duty, employers can argue business necessity would allow employers to mandate or encourage employees to get a COVID-19 vaccination to comply with

its safety obligations.

There are several additional steps employers can take to prepare and consider before implementing a vaccine policy.

Employers should begin to have the necessary internal conversations about mandatory vaccinations in the workplace in order to determine and document their business justifications for creating such a policy. Employers should take this time to develop new policies or update existing policies for administration and enforcement of a mandatory vaccine. This can include a process for ensuring confidentiality, reviewing accommodation requests, and administering discipline to employees who refuse to comply. Additionally, employers can also begin to consider potential incentives for employees that decide to vaccinate. These incentives can include monetary bonuses, gift cards, extra paid time off, or other rewards.

Employers should develop positive employee communications on the issue of vaccinations. This can include internal and external messaging as well as education plans designed to ease employee concerns about the safety of vaccines and further explain the company’s decision in terms of ensuring the health and safety of its employees.

In this regard, employers can take the following actions:

- Provide timely information regarding vaccines and public health authority recommendations.
- Make sure that all supervisors and company spokespersons are trained to address questions regarding the company’s chosen vaccination policy. Employers may want to organize a COVID-19 vaccination team or spokesperson who will be tasked with staying abreast of developments and handling communications within the company, and to which all questions may be directed.
- Determine how to communicate the company’s vaccination policy to the public, including customers, guests, clients, vendors, patients, etc.

The COVID-19 pandemic has brought on challenging times for employers and the country as a whole. Employers are encouraged to give thoughtful consideration as to what works best within their specific work environment. Please communicate with your consultants and legal counsel to determine what is best for your specific organization. ♦

THE SEVEN PILLARS OF A MODERN SUPPLY CHAIN

AM TRANSPORT SERVICES



The logistics process has evolved over the past 30 years. In good times and in bad, the manufacturers and distributors who continue to grow and succeed are those who consider their logistics processes.

Too often, logistics is an afterthought – a simple means to get your product where it needs to be, but the truth is that with careful consideration, your logistics processes can save you time and money.

The seven pillars of a modern supply chain are a template – a guidebook of sorts – to help you keep track of what's important and to build a foundation based on continuous improvement.

First Pillar: Carrier Compliance and Risk Mitigation

Many manufacturers do not understand the amount of risk inherent in hiring carriers or 3PLs. Typically, logistics is seen as a cost center and only at the very end of the manufacturing process. This means your number-one consideration in hiring a carrier is the lowest rate. You might believe any carrier you hire will have proper insurance, licenses, and is following regulations, so if anything negative happens it's on them.

This is not true.

When bad things happen (accidents, dam-

aged goods, etc.) you can be liable, especially if this case ends up in court. Many trial attorneys are looking for damages, and they are going to sue the company with the biggest pockets – rarely is that the carrier hauling your freight. You need a hiring process that you follow each time you hire a carrier or another logistics company.

An example of a carrier hiring process:

- Verify company phone and email contact and match carrier's FMCSA data.
- Review TIA Watchdog and Carrier 411 Freightguard for adverse reports.
- Review TIA Fraud Check for association with undesirable companies.
- Review FMCSA MC Authority status and revocation history.
- Verify required insurance on file with FMCSA and obtain Certificate of Insurance from the agent.
- Review and assess carrier's SMS violation record and out-of-service history.
- Review and assess the number, type, and location of carrier's DOT inspections.
- Compare carrier's stated truck count against their MCS-150 and SMS/Inspection data.

It is possible to have a less onerous process in place. The most important thing is to have a process.

Second Pillar: Transportation Management System

All companies should take a look at how they're managing their shipments. In the past, you might have managed everything with an Excel spreadsheet, but as you evolved in your processes your technology evolved as well. The same thing has happened in logistics. It's called a Transportation Management System or TMS. Logistics companies have had these systems in place for years now, but manufacturers and distributors can also derive a lot of value from using a TMS.

A TMS can help you with:

- **Carrier Management:** Match up your production with carriers.
- **Visibility, Reporting, & Analytics:** This data helps you create efficiencies.
- **Shipment Tracking**
- **Routing Guides & Waterfall Tendering:** Data repository for freight settlement.
- **Customized Reporting:** All businesses are different, and you can customize your TMS to report the data you need to make a difference.

Third Pillar: Active Carrier Management

Active carrier management – which means

working relationships with your carriers – will allow you to save money and continually improve your relationships with carriers.

This proactive approach will enable you to:

- Identify additional opportunities with current carriers.
- Review expectations and performance for better accountability.
- More efficiently implement new carriers.
- Reduce costs through carrier optimization.

While maintaining good relationships with the carriers you work with seems like a no-brainer, real, active carrier management requires time and intention, but it pays off.

Fourth Pillar: Freight Bill Audit & Payment

Much efficiency is lost in the way companies manage their freight bill audit and payment. Typically, the freight bill goes to the logistics department, is coded and approved, then logged and sent to accounting. Then it's processed by accounting and sent to Corporate for payment. Finally, Corporate accounting pays carriers.

With the right technology and auditing, you can save money and time using a better process that looks like this:

- Shipments are coded when they're created.
- Carriers email invoices.
- The TMS receives, scrapes, and inputs data.

- Freight bills without exceptions are approved for payment

- Carriers receive payment via ACH: Quick Pay or Online

When you pay quickly and efficiently, you end up working with the best carriers. Right now, capacity is tight, and it's never been more important for manufacturers and distributors to gain "shipper of choice" status. Being a "shipper of choice" requires you to put a little extra effort into your relationship with carriers, but it puts you in a better position to navigate capacity shortages.

Fifth Pillar: Shipment Tracking

The Amazon Effect has changed consumer perception in a variety of ways, but especially in our belief that we must know when a shipment is going to arrive. There is a misconception that truckload shipping is different. A few short years ago, it was difficult to track a truckload shipment; however, in the last couple of years that has changed dramatically.

There are several ways to track shipments now:

- **Electronic Logging Devices:** All trucks must use ELDs, and these devices have built in tracking devices. It's easy to log in and im-

mediately track the truck at all times.

- **Driver's Cell Phone:** At the same time, many drivers' cell phones are equipped with common apps that allow for tracking. It's easy, quick, and you always know the location of your shipment.

- **Cellular based tracking device:** These small cellular based tracking devices can be slapped directly on a pallet and provide real-time tracking of packages.

If you're not tracking your shipments with one or all of these devices, you're missing out on some great technology. The ability to track your shipments gives you peace of mind and keeps your customers in the know.

Sixth Pillar: Active Shipment Management

Active shipment management is the process of continually evaluating a shipment as it runs through the supply chain. Historically, shippers get a shipment out the door and forget about it. By exploring what happens to your shipments, you can improve your processes by:

- Reducing costs on detention.
- Improving your shipper of choice status.
- Ensuring on-time delivery.

You may think you do not have time for such an active role; however, there are outside companies who can do this for you. If you use a broker, you should definitely ask about active shipment management to save money and boost customer satisfaction.

Seventh Pillar:

Reporting and Visibility

There's so much talk about reporting and visibility, but you should ask yourself these questions:

- What are you reporting on? This is an important question. Are you reporting on what's important or what's always been reported on?

- How hard is it to create new reports? Here's where that TMS comes in. If you have good technology, you'll probably have a dashboard you can pull up, one that will show you what's going on in real-time. This makes it so much easier to create reports that matter.

Peter Drucker famously said, "You can't manage what you can't measure," and this is applicable here. Accurate reporting is a must, especially now during the COVID-19 pandemic where shippers are finding it necessary to more efficiently move their freight.

The pandemic has changed the logistics landscape in 2020, and it's likely that this disruption will continue. Manufacturers and distributors can get ahead of the curve by implementing some or all of the seven pillars of a modern supply chain. By doing so, you'll save both time and money, be prepared for continuous improvement, and ensure growth during both certain and uncertain times. ♦

It's time to build business back up again.

Our custom HR solutions can help.

LET'S TALK.

email: simplify@tandemhr.com | call: (630) 928-0510 | chat: www.tandemhr.com



www.tandemhr.com

TANDEM HR

EMPLOYERS CASH IN WITH THE APPRENTICESHIP TAX CREDIT

In 2019, the IMA Education Foundation pursued legislation establishing a tax credit for manufacturers who participate in a Registered Apprenticeship program, like ICATT Apprenticeship Program. The legislation, supported by the Illinois Department of Commerce and Economic Opportunity, and the Illinois Workforce Investment Board, passed nearly unanimously and was signed into law by Governor JB Pritzker, becoming effective for expenditures made on or after January 1, 2020.

The apprenticeship tax credit is simple and straight forward. An employer who pays the tuition on behalf of their apprentice to an Illinois community college for related technical instruction is eligible to take a credit of up to \$5,000 against its state income tax liability for each of its apprentices for every year of the apprenticeship. This is probably among the more beneficial tax credits for Illinois manufacturers.

The tax credit must be applied for through the Illinois Department of Commerce and Economic Opportunity. An on-line application, modeled after the highly successful EDGE Tax Credit, is available and must be submitted before the company can claim the credit on its 2020 Illinois Income Tax Return.

Employers are allowed the tax credit for qualified educational expenses associated with qualifying apprentices. Employers may receive a credit of up to \$3,500 per apprentice against the taxes imposed by subsections (a) and (b) of Section 201 of the Illinois Income Tax Act, and an additional credit of up to \$1,500 for each apprentice if (1) the apprentice resides in an underserved area or (2) the employer's principal place of business is located in an underserved area.

The total tax credits issued by the Department under this program may not exceed \$5 million in any calendar year, which shall be allowed on a first-come first-served basis, based on the date on which each properly completed application is received by the Department.

Eligibility Requirements

- A qualifying apprentice must be: (a) an Illinois resident; (b) at least 16 at the close



**IMA** | EDUCATION FOUNDATION

ICATT

**AHK**
German American
Chambers of Commerce
Deutsch-Amerikanische
Handelskammern

**Apprenticeships
START HERE** 

www.ThinkICATT.com

With ICATT you get the skilled workforce you want. Tackle the Skills Gap and "grow your own" readily employable and competitive workforce by creating an accredited program that combines in-company and college education.

of the school year for which a credit is sought; (c) a full-time apprentice enrolled in an apprenticeship program registered with U.S. Department of Labor (USDOL), Office of Apprenticeship during the school year; and (d) employed by the taxpayer in Illinois.

–To register a program with the USDOL, companies should contact the USDOL, Office of Apprenticeship State Director Kim Jones at jones.kimberly@dol.gov.

–U.S. Department of Labor has the following website to support employers: <https://www.apprenticeship.gov/employers>; and for additional information specific to Illinois Apprenticeship Programs go to www.ApprenticeshipIllinois.com.

- Qualified educational expenses include tuition, book fees, and lab fees.

- A qualified school means any Illinois public or nonpublic secondary school that is: (a) an institution of higher education providing a program that leads to an industry-recognized postsecondary credential or degree; (b) an entity that carrying out programs registered under the federal National Apprenticeship Act; or (c) another public or private provider of a program of training services, which may include a joint labor-management organization.

It is expected these tax credits could go quickly, so time is of the essence. For more information, please visit the Apprenticeship Illinois website for complete details. ♦

THREE THINGS MADE CLEAR BY ILLINOIS MANUFACTURERS' RESPONSE TO THE PANDEMIC

MHUB



In March of 2020, the global Coronavirus pandemic hit this region quickly and furiously. Previous pandemics in recent memory were contained before they reached the U.S., much more the Midwest.

Fault lines in America's healthcare infrastructure and manufacturing supply chain were exposed quickly with Personal Protective Equipment (PPE) in short supply for both first responders and medical professionals; a crisis compounded by sudden consumer demand.

In Illinois, Governor JB Pritzker asked the Illinois Manufacturers' Association (IMA) and Illinois Biotechnology Industry Organization (iBIO) to co-chair an Essential Equipment Task Force. A fantastic and unprecedented collaboration occurred with organizations including mHUB, MxD, Illinois Manufacturing Excellence Center, Chemical Industry Council of Illinois, Connect Food, and the Chicagoland Food and Beverage Network.

More than 1,000 manufacturers from across the state joined together to answer the call. The regional manufacturing industry truly showed its grit and resilience. Companies increased production or retooled operations to make critical equipment and supplies to meet our state's needs.

mHUB was a proud member of this group and observed this incredible collaboration upfront. Through the work, there were three things that were made clear.

The Diversity of this Manufacturing Sector is an Unmatched Strength

Compared to other manufacturing leaders in the U.S., the Illinois regional industry boasts the strong sector diversity. This is an incredible advantage in the face of crises. From Koval Distillery out of Chicago transforming their facility to produce much-needed isopropanol, to John Deere producing face shields; manufacturers of all sizes pivoted operations overnight to fill critical gaps in supplies.

This state can fire on cross-sector cylinders in the manufacturing arena to pivot and meet consumer demand. Looking forward, this diversity also positions the state for strength as the country moves towards recovery; with solid workforce prospects for Illinoisans from the shores of Lake Michigan the river basin.

Illinois Manufacturers Band Together for the Industry, Economy, and Greater Good

In the traditional environment, there are little incentives to share information on business practices. In the face of this crisis, Illinois' manufacturers quickly lowered those walls to create extraordinary proactive and transparent communication on how to increase production while keeping workers safe. Talking daily, manufacturers adopted new innovations in the areas of

contact tracing, social distancing, sanitation, plant management, and others.

Illinois Has the Right Foundation to Lead in the Innovation Race

Illinois is the capitol of the Midwestern economy, but has also avoided the steady industrial decline of other Rust Belt states. This is due to the significant long-term investment in Illinois' innovation capacity with outcomes including an incredible talent pool, strong connections amongst the industry's key stakeholders, and market expansion both domestically and abroad.

It is these elements and more that will buttress the region's leadership, not only as the country moves forward in economic recovery but also beyond in the transition to Industry 4.0.

With 2020 in the rearview mirror, the Illinois manufacturing industry has solid learnings and foundation to build on. The Coronavirus pandemic was an extreme shock to the physical and economic health of this country, but it is not the last crisis that will hit home. This collaborative play book can grow and scale as the industry moves forward towards automation and efforts to become smarter, faster and more efficient. Illinois has shown its resilience in the face of change and its willingness and ability to lead, which will translate into leadership at the forefront of advanced manufacturing. ♦

HOW MUCH ENERGY DO SMALL BUSINESSES USE?



Small-business owners are busy people. Between managing employees, serving customers and tracking finances, it can be difficult to keep track of your small business's energy consumption. But by understanding how much energy your small business uses, you can find ways to cut back, be more efficient and protect your bottom line.

Determining kWh Usage for Small Businesses

In 2019, the average monthly energy consumption for commercial properties in the United States was 6,066 kilowatt-hours (kWh). That includes a range of business sizes, so the average kWh usage for small businesses will be less, but the average for your business will vary based on a number of factors, such as the industry you're in, the climate in which you're located and the type of equipment

you use. For example, if your business stays open late and experiences more extreme temperatures, you can expect to spend a little extra on your lighting, heating and cooling costs.

In Texas, in 2019, commercial buildings consumed an average of 7,699 kWh/month. Compare that to Pennsylvania, at 4,666 kWh/month. So, location plays a role in your usage. But regardless of your state, it's worthwhile to find ways to curb your small business's energy consumption.

To keep your energy use at a minimum, try upgrading to energy-efficient office equipment and implementing energy-saving practices for your employees. Just getting your employees to turn off lights when not in use, or unplug computers when they leave for the day, can lead to increased energy savings over time.

The Average kWh Usage for Small Businesses

In 2019, the average monthly bill for commercial properties in the United States was \$647.61. Because of the range of business sizes, many small businesses will pay less than that figure. And just like with usage, the average electric bill for small businesses is higher in some states than in others.

For example, commercial properties in Texas spent an average of \$620 per month on electricity in 2019, while similar properties in Illinois spent about \$600 per month during the same period. In a state like Pennsylvania, the average monthly cost of electricity for a commercial business was only \$407 per month in 2019.

If you're unsatisfied with the amount your small business is paying for electricity each month, it may be time to

explore your options. When choosing a new energy provider, it's important to shop around and compare rates until you find one that meets your particular business's needs.

Calculating your Business's Electricity Costs

Calculating your small business's electricity costs will give you a better idea of what's consuming the most power in your business and help you outline steps to limit how much you use. An energy management system can be a great tool for monitoring your business's electricity usage and figuring out your overall costs.

If you don't have an energy management system, you can calculate the cost to run each appliance in your business instead. This can be accomplished by using the following formula:

- Multiply a device's wattage by the number of hours it's used each day.
- Divide by 1,000.
- Multiply by your kilowatt-hour (kWh) rate.

So, say you have a laptop that uses 50 watts while plugged in. You use it 8 hours a day and pay 11 cents per kilowatt-hour for electricity. You're using 400 watt-hours every day (50 watts x 8 hours = 400 watt-hours). Divide that by 1,000 to get 0.4 kWh. Multiply 0.4 by your electricity rate of 11 cents, and you get 4.4 cents per day, or \$0.044. If your business operates about 23 days in a month, you'll pay a little over a dollar per month to power that one laptop ($\$0.044 \times 23 \text{ days} = \1.01).

What Uses the Most Energy in Your Business?

From your business's location to the industry you operate in, there are several factors that influence small-business energy consumption. For example, what uses the most energy in an office may not use as much energy in a restaurant, and vice versa. But in general, some of the biggest energy expenses for small businesses include the following "end uses."

Indoor and Outdoor Lighting

Lighting is one of the largest energy expenses for commercial businesses, consuming an average of 7 kWh/square foot. Factors such as the types of light

bulbs you use and your business hours will affect how much you spend on electricity for lighting each month.

Investing in energy-efficient commercial lighting is an effective way to curb the amount of energy your lights use. Additionally, you may also be able to limit your electricity expenses by changing your business hours. The less often your lights are turned on, the more energy you'll be able to conserve.

Heating and Cooling Systems

Regulating the temperature in your small business can require quite a bit of energy. Although the actual amount will vary depending on the size of your business and the climate in your area, heating and cooling consumes an average 5 kWh/square foot in commercial businesses — 7 kWh/square foot if you include ventilation.

In office buildings, heating and cooling can account for more than 40 percent of total energy consumption. This is especially true for offices based in colder climates. In Wyoming, for example, 44 percent of energy consumed in offices goes toward heating and cooling.

Computers and Laptops

Computers, laptops and accessories are also capable of drawing a lot of energy in your business. When compared, laptops are definitely the more energy-efficient option, consuming approximately 120 kilowatt-hours less than desktops per year.

However, one common energy-wasting habit is leaving laptops plugged in after they've reached a full charge. Using our example above, a laptop that uses 50 watts while plugged in for 24 hours at 11 cents per kWh, even on nonbusiness days (say, 30 days), nearly quadruples how much you spend per month to power that one machine, at \$3.96/month. To reduce your small-business energy consumption, it's best to unplug laptops and work off the battery whenever possible.

Printers and Copy Machines

Depending on your industry, you may rely on printers, copy machines and other office equipment to operate your business. A commercial printer consumes an average of 300 to 500 watts when printing, and about 30 to 50 watts in standby mode. If you use a 400-watt commercial

printer continuously for 8 hours a day at \$0.10 per kilowatt-hour over 250 business days, it will cost you approximately \$80 a year to run. In light of these expenses, you may want to consider going paperless in your small business.

Security Systems

Although most security cameras are only 2 to 15 watts, they're often running 24/7, meaning they can use a sizable amount of energy over time. Plus, the wattage goes up if your system features a security light, network video recorder (NVR) or other energy-drawing features. For example, a network video recorder could add an additional 40 watts to your system draw.

At \$0.10 per kilowatt-hour, a single 15-watt security camera running 24 hours a day will consume around \$13 worth of energy a year. Add a 40-watt NVR, and that figure increases to just under \$50. However, this small-business energy cost could be well worth the added protection you receive.

Refrigerators and Freezers

Businesses in some industries, such as food service, depend on refrigerators, freezers and other equipment to keep their operations running. These types of appliances can consume a substantial amount of energy. For example, a single commercial refrigerator can cost around \$140 a year to run.

One business energy-saving tip is to exchange outdated appliances for more energy-efficient models. For example, switching to an ENERGY STAR® commercial refrigerator can save you as much as \$788 in energy expenses over the lifetime of the appliance.

Taking Control of Your Small Business's Energy Consumption

It's worth taking some time to calculate your small business's energy costs and figure out how much you're using and why. Then, you'll be able to analyze your business energy data and start making changes to cut your energy expenses. Even a few small adjustments to the way your business operates can result in significant savings down the road. ♦

MANUFACTURERS' OTHER PANDEMIC PROBLEM: CYBERSECURITY

SIKICH LLP

The list of challenges manufacturers have faced during the coronavirus pandemic is long. Most have had to implement new safety procedures on the plant floor, many have had to navigate the PPP loan process, and all have had to work hard to maintain customer relationships and keep operations running smoothly in a tumultuous economic environment. Amid all of this, it's been easy to overlook data security, especially since many manufacturers continue to view themselves as too obscure to attract the attention of hackers.

But cybersecurity threats for manufacturers have increased during the pandemic, and the rise of ransomware attacks puts even the most obscure manufacturers in the crosshairs of cybercriminals. Heading into 2021, manufacturers must take stock of their cybersecurity challenges. Then, act.

Security Through Obscurity No More

Historically, many manufacturers have adopted a mindset of "security through obscurity." We frequently hear things like, "I only make a widget. No hacker would care about me," from manufacturing executives.

This point of view was somewhat accurate when cybercriminals mostly focused on stealing and selling sensitive data and information (think credit card and Social Security numbers). But cybercriminals have shifted to targeting vulnerable companies of any industry and holding their data and systems hostage for ransom money. By nature, these ransomware attacks are mainly attacks of opportunity. Hackers today are looking for an easy way into any organization. They often find their way in through a phishing exercise of some kind. Once in, the attackers encrypt the company's data and only unlock it after receiving the hefty (often six-figure) bitcoin payment. Also, a company isn't necessarily protected from ransomware attacks simply because it has good backups. Attackers are now removing data from

their victim's network and dumping it on the internet if the company doesn't pay the ransom.

Still, too many manufacturers continue to take a lax approach to protecting their systems. Sikich recently surveyed about 50 manufacturing executives about pandemic-related challenges. More than half said their cybersecurity risk has increased. However, 35 percent either don't conduct phishing exercises or are conducting them less frequently than in past years. Manufacturers must take action to address some of the pressing areas of risk they face today.

TO DEAL EFFECTIVELY WITH EVOLVING CYBERSECURITY THREATS, MANUFACTURERS MUST RECOGNIZE THEIR VULNERABILITIES AND APPROACH CYBERSECURITY AS AN ONGOING BATTLE THAT REQUIRES CONSTANT VIGILANCE AND ACTION.

Remote-Work Vulnerabilities

In our recent survey, 34 percent of manufacturing executives reported that more than half of their employees work remotely more than two days a week. As manufacturers scrambled to get their employees up and running in remote environments at the beginning of the pandemic, many made decisions that increased their cybersecurity vulnerabilities. Some put in place insecure remote-access tools, for example. And some allowed employees to use their personal equipment for company work. Manufacturers must get every employee working on company-issued equipment that their IT teams secure and monitor. Further, implement VPN solutions with

two-factor authentication and automatic connection timeouts to keep company data secure, no matter what network an employee is on.

Industry 4.0 Creates New Entry Points

An embrace of Industry 4.0 technologies can help a manufacturer enhance production accuracy and plant-floor efficiency. But, as the number of connections to a company's network increase, so do the potential vulnerabilities. Manufacturers must patch, update and secure their various Industry 4.0 technologies, and architect their networks properly to ensure that connected machines are not public facing on the internet.

Control Systems and Custom Hardware

Networked industrial control system devices can increase a company's exposure to cybersecurity risk, as well. These control systems often have missing patches, default passwords and weak configurations. If a hacker gained access to a company's network, weak security protocols on an industrial control system gives them another easy target.

Additionally, it's common for manufacturers to rely on old computers to perform specialized tasks. These machines often run old and unsupported operating systems, making them vulnerable to attacks. Ideally, companies would retire these old computers. But, at a minimum, a company should segment these machines from the rest of the network and the internet.

The Human Challenge

One of the easiest ways into a manufacturer's network is to get an unsuspecting employee to click a malicious link or download an attachment in a phishing email. Today's phishing emails are often harder to identify than the phishing emails of old. For example, COVID-19-themed phishing emails that

THE PANDEMIC HAS INCREASED MANUFACTURERS' NEED FOR COMPREHENSIVE CYBERSECURITY

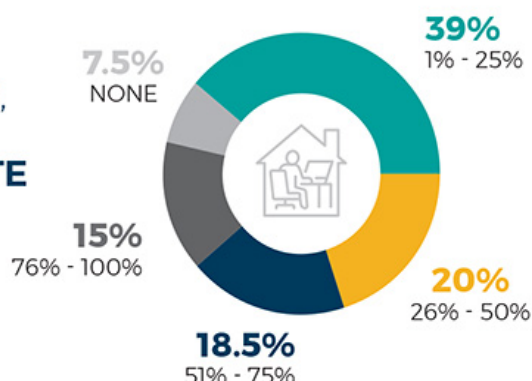
53% ↑

reported their cyber risk has increased during the pandemic



EVEN IN MANUFACTURING, EMPLOYEES ARE WORKING REMOTE

Percentage of M&D workforce that works remotely more than two days a week



BUT, MANUFACTURERS ARE NOT DOING ENOUGH TO TRAIN THEIR EMPLOYEES AND PREVENT A BREACH



35%

OF MANUFACTURERS ARE CONDUCTING LESS (OR ZERO) phishing exercises during the pandemic compared to the previous years

**Data gathered from more than 50 manufacturers and distributors in October 2020*

appear to come from company executives are common today. Therefore, vigilance is essential, and it's up to manufacturing company leaders to increase the level of cybersecurity awareness in their organizations.

A Cybersecurity Game Plan

As they assess their vulnerabilities, manufacturers should consider taking the following steps to improve their cybersecurity footing:

Embrace managed security: Manufacturers should start by viewing cybersecurity as a 24/7 need, not simply as an add-on to their existing IT operations. In today's threat-filled environment, most manufacturers would benefit from managed security, where an external team monitors the company's network 24/7, flagging anomalies to prevent intrusions and containing any intrusions that do occur. It's important to understand that no matter how technologically advanced a company may be on the plant floor, that doesn't automatically

translate into data security protection.

Perform a risk assessment: Next, a manufacturer should go through a thorough risk assessment. This process – which includes reviews of systems and interviews with employees – helps company leaders understand the cybersecurity risks their organization faces. Then, they can make the most of their cybersecurity budget, targeting the activities that will most effectively reduce overall risk.

Put systems to the test: A penetration test, during which cybersecurity professionals seek to break into a manufacturer's systems, is a key step in identifying and addressing any persistent vulnerabilities. Cybersecurity professionals creatively replicate the efforts of the most sophisticated hackers to put a company's systems to the test.

Build a culture of security: As noted earlier, the easiest way into a company's network is to get an employee to click on a link or download an attachment. In response to this pervasive threat,

manufacturers must build a culture of security. It's important to, on a regular basis, put employees through phishing exercises. Publicize the results of these tests, celebrating the employees that successfully identified these phishing emails. It's important to make clear the company's commitment to data security and encourage the right behaviors from employees.

To deal effectively with evolving cybersecurity threats, manufacturers must recognize their vulnerabilities and approach cybersecurity as an ongoing battle that requires constant vigilance and action. The pandemic has shifted the playing field and given cybercriminals more opportunity. Manufacturers must respond by putting cybersecurity at the top of their priority lists and eliminating those opportunities. ♦

EXPAND YOUR BUSINESS INTERNATIONALLY WITH THE U.S. COMMERCIAL SERVICE

U.S. DEPARTMENT OF COMMERCE

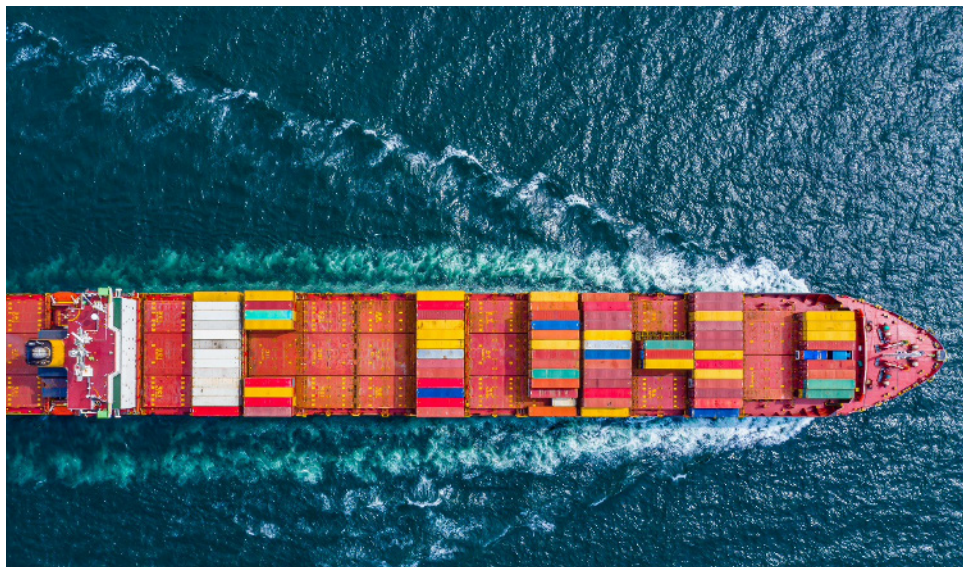
Export growth directly supports and strengthens businesses across America, with over 800,000 jobs supported by export activities in Illinois alone. In 2019, the total value of state exports from Illinois was over \$59 billion. Despite an eight percent decrease in exports from the previous year and the many exporting challenges 2020 has presented for business owners, exporters can still reach an expansive global consumer base seeking American-made products by working with the U.S. Commercial Service.

Perhaps there are businesses unfamiliar with this government organization tasked with delivering services that help your company win and succeed in the global marketplace. The U.S. Commercial Service is the exporting arm of the U.S. Department of Commerce's International Trade Administration and for the last 40 years has supported American manufacturers as they navigate global markets.

In 2019, the International Trade Administration facilitated \$88.9 B in U.S. exports and \$18.5 B in inward investment supporting over 486,000 American jobs by assisting over 29,500 U.S. exporters and 6,400 investment clients.

The U.S. Commercial Service is consistently adapting to meet the needs of U.S. manufacturers by providing them with actionable market intelligence and creating export opportunities in an ever-changing global economy. The organization continues to support manufacturers through its Gold Key Service and Website Globalization Review Gap Analysis Service, among others, that help companies remain competitive on the global stage despite disruptions to in-person engagements.

The Gold Key Service, a signature program of the U.S. Commercial Service that creates an opportunity for U.S. companies to take part in up to five matchmaking appointments with pre-vetted firms in a foreign market. Additionally, these foreign distributors or partners have expressed an interest in the goods or services offered by the American-based company. The Gold Key Service primarily focused on in-person meetings; however, the pandemic has prompted an increase in the



use of virtual introductions to help facilitate these meetings.

Illinois manufacturers that wish to continue to grow international sales can work closely with their local Commercial Service international trade specialists to explore vetted B2B lead generation options. For example, NOW Foods, Bloomingdale based manufacturer and distributor of natural products, turned to the U.S. Commercial Service to help grow their European sales. By taking advantage of the Gold Key Service, NOW Foods had access to the expertise of the U.S. Commercial Service teams in Chicago and Prague, Czech Republic. These teams worked together to counsel NOW Foods on market opportunities and arranged pre-vetted business-to-business (B2B) meetings with appropriately matched Czech companies. Their meetings resulted in a business partnership and a 2019 launch of one of their product lines within a major Czech drugstore chain.

Virtualization has not stopped the Commercial Service from providing critical export assistance services, such as lead generation, to American companies. In addition to the Gold Key Service, the U.S. Commercial Service also provides companies a virtual assessment of their online presence. The Commercial Service's Website Globalization Review

Gap Analysis Service provides technical and strategic assessment of a business's website and eCommerce sales channel efforts. Developing a digital strategy is an offering available to companies interested in improving their international website traffic to capitalize on the increased consumer trends shifting towards digital engagement. Website Internationalization is the most common approach for small and mid-sized companies looking to enhance their international marketing and sales efforts. The first step is optimizing the company's website to identify technical issues that prevent international buyers from finding and engaging with them online. Once companies solve the technical website issues limiting international engagement, they can focus on making more substantive changes to improve their website's efficiency in converting international leads into clients or partners.

Illinois is home to two of the U.S. Commercial Service's export assistance centers. The trade specialists based in the Chicago and Peoria export assistance centers partner with specialists in U.S. Embassies and Consulates in over 75 countries to help Illinois businesses succeed in markets around the world. ♦

2020 IMA ANNUAL LUNCHEON



The 2020 IMA Annual Luncheon was unlike any other in our 128-year history. Hundreds of business leaders across the state tuned in for the pre-recorded, virtual event featuring keynote speaker Michael G. Vale, Executive Vice President of 3M. Mike held a fascinating conversation about 3M's role in battling the pandemic using lessons learned from the last outbreak.

The IMA was proud to present the 2019 Barry L. MacLean Manufacturer of the Year award to AbbVie, Inc. AbbVie is a research-driven biopharmaceutical company headquartered in North Chicago. With over 7,000 employees in Illinois and 47,000 around the world, AbbVie serves 52 million patients. When the COVID-19 pandemic struck our nation, AbbVie rose to the challenge donating \$35 million to underserved communities and healthcare systems as well as 40,000 vials of viral transport media (VTM) per week to Illinois, accounting for more than half of the state's needed supply.

"AbbVie has taken on the toughest health challenges. But they do more than treat diseases; they aim to make a remarkable impact on peoples' lives," said Mark Denzler, IMA President & CEO. "They donated thousands of kits containing N95 masks, sanitizer, gloves and wipes. They also doubled their charitable matches made by their employees and offered support to employees

needing help with mortgage and rent, utilities, food, childcare and medical expenses. All the while, AbbVie continued their mission to provide treatment in four primary areas: immunology, oncology, virology and neuroscience. AbbVie is working in more than 75 countries to advance healthcare solutions, and we are so proud that they are located right here in Illinois."

"Agility took on a new meaning in 2020. Anticipating, and then mitigating challenges even more quickly was essential. Working with the utmost urgency to protect our employees and assure supply to patients starts right here in Illinois," said Azita Saleki-Gerhardt, Ph.D., Executive Vice President of Operations at AbbVie. "COVID in many ways has brought out the best in our people. We've witnessed our employees not just doing their jobs but asking how they can help and do more. It's the All-for-One AbbVie spirit that drives us. When things are at their worst, we know we must be at our best because our patients deserve nothing less, and recognitions like this from the Illinois Manufacturers' Association are a reflection of that spirit."

Earlier in the week, the IMA hosted three virtual breakout sessions that educated IMA members on the market outlook for 2021, diversity and inclusion in the workplace, and cybersecurity.

Longtime IMA team member Jim

Nelson, champion of workforce development and head of the IMA's Education Foundation, was recognized as he retired with the Jim Nelson Education Foundation Scholarship. ♦



EMPLOYMENT LAW CHANGES MANUFACTURERS SHOULD PREPARE FOR UNDER THE BIDEN ADMINISTRATION

GREENSFELDER, HEMKER & GALE, P.C.



A new year always brings changes. 2021, for better or worse, will be no different. Under President Biden's Administration, manufacturers should be planning and looking ahead to determine what significant employment law changes may be on the horizon during President Biden's four years in office. Fortunately, during his campaign, then-candidate, now-President Biden provided a glimpse of what employers can and should expect under his Administration. Specifically, President Biden pledged the following:

"[E]ncourage and incentivize unionization and collective bargaining"; "[e]nsure that workers are treated with dignity and receive the pay, benefits, and workplace protections they deserve"; and "[c]heck the abuse of corporate power over labor and hold corporate executives personally accountable for violations of labor laws."

Based on this brief excerpt, my crystal ball

is telling me that employers/manufacturers should expect a more worker-friendly era under the Biden Administration. The following are five potential employment law changes that could occur under the Biden Administration.

Minimum Wage

President Biden's campaign pledged a \$15.00 federal minimum wage rate, so it is anticipated that he will seek to raise the current federal minimum wage of \$7.25 per hour, to \$15.00. If the Republicans maintain control of the Senate, however, any such proposal will likely be met with strong resistance, as Senate Majority Leader McConnell (as of the drafting of this article) previously said he would not consider such legislation when the House had passed a bill in 2019 that would have raised the federal minimum wage to \$15.00 by 2025.

Note, on January 1, 2021, the minimum wage in Illinois increases from \$10.00 to \$11.00 per hour; on July 1, 2021, the minimum wage

for Chicago employers with 21 or more employees will increase from \$14.00 to \$15.00 per hour, and for employers with 4-20 workers, it will increase from \$13.50 to \$14.00 per hour; and on July 1, 2021 Cook County's minimum wage is scheduled to increase from \$13.00 per hour to an amount to-be-determined by June 1, 2021. However, Cook County municipalities that opted out of the Cook County Minimum Wage Ordinance will be subject only to the Illinois Minimum Wage rate of \$11.00 per hour.

Empowering Unions

President Biden ran on a platform of strengthening worker organizing, collective bargaining, and unions. He has expressed strong support for the Protecting the Right to Organize ("PRO") Act, which would significantly strengthen unions by: banning employer mandatory "captive audience" group meetings; requiring mandatory immediate

collective bargaining days after a union becomes employees' representative for 90 days and, if no agreement is reached, binding interest arbitration of contract terms; preempting states' "right to work" laws; allowing "unfair labor practice" claims to be brought as civil actions in court; adding fines and liquidated damages (possibly six figures) as remedies for unfair labor practices; and adding personal liability for unfair labor practices for corporate directors and officers. President Biden will be able to appoint a majority of NLRB members, giving him an opportunity to appoint individuals who share his views on unions and collective bargaining, and who are likely to overrule many of the precedents issued during the past few years.

Banning Mandatory Individual Arbitration Agreements

President Biden has indicated his support for the Forced Arbitration Injustice Repeal ("FAIR") Act, legislation that would prohibit employers from requiring employees to sign pre-dispute arbitration agreements as a condition of employment. Indeed, President Biden's campaign pledged to "enact legislation to ban employers from requiring their employees to agree to mandatory individual arbitration and forcing employees to relinquish their right to class action lawsuits or collective litigation." The FAIR Act initially was introduced in 2019 with little chance of passage, given a Republican majority in the Senate and then-President Donald Trump's vow to veto it. If the Republicans maintain their Senate majority, (as of the time of this article, Republicans still do) a re-introduced bill is unlikely to once again gain any traction.

Importantly, however, the Workplace Transparency Act ("WTA"), which became law in Illinois on January 1, 2020, prohibits Illinois employers from including mandatory arbitration provisions in employment agreements for claims involving unlawful employment practices, unless the employment agreement provides that this provision has been mutually agreed to, is in writing, reflects bargained-for consideration, and includes other written acknowledgement of rights. So, if the FAIR Act is re-introduced and passed in Congress, (which is a big "if" should the Republicans still hold onto their majority in the Senate), this likely will affect the WTA's provision permitting such provisions in employment agreements, subject to the requirements noted above. So, Illinois manufacturers with mandatory arbitration provisions in employment agreements will want to monitor legal developments on this issue and potentially revisit their use of arbitration agreements on a position-by-position basis.

Bias Training for Federal Contractors and Subcontractors

Based on President Biden's campaign pledge to strengthen equal employment opportunities, it is anticipated that he likely will repeal former-President Trump's Executive Order 13950, "Combating Race and Sex Stereotyping." This Executive Order prohibits federal contractors and subcontractors from holding "workplace training that inculcates in its employees any form of race or sex stereotyping or any form of race or sex scapegoating." Among the training prohibited by the Executive Order is the concept that "an individual, by virtue of his or her race or sex, is inherently racist, sexist, or oppressive, whether consciously or unconsciously." It remains to be seen what new obligations regarding workplace training, if any, might be implemented instead under President Biden. Note, however, Illinois' annual mandatory sexual harassment prevention training, a requirement for all Illinois employers, will not be affected should President Biden repeal Executive Order 13950.

Worker Classification as Independent Contractors

Under President Biden, the Department of Labor ("DOL") likely will withdraw former-President Trump's DOL's proposed independent contractor rule, which clarifies who qualifies as an "independent contractor"

under the Fair Labor Standards Act ("FLSA"). The proposed rule's focus on the worker's control over his or her work would make it easier for companies to establish an independent contractor relationship, than under the test currently in place. Under President Biden, the DOL likely will move away from the new proposed rule towards a more restrictive view of independent contractor relationships. Indeed, it is anticipated that the Biden DOL may take steps to further expand the definition of who qualifies as an "employee" under the FLSA, making it more difficult for companies to utilize independent contractors without fear of misclassification. Note, as of the drafting of this article, the DOL's proposed rule has not been finalized. If, however, prior to inauguration day on January 20 2021, Trump's administration finalizes the DOL's proposed independent contractor classification regulations, those regulations likely will be reversed by President Biden's Administration.

In summary, and as indicated above, most of these proposals would require Congressional approval. Thus, whether the Republicans maintain control of the Senate likely will dictate whether these proposals (and other Biden campaign pledges) actually become reality. Regardless of whether these proposals become law, manufacturers should expect a new, more employee-friendly direction for labor and employment law under President Biden and his administration. ♦

Supercharge your sales & marketing

Get up to 3 months of HubSpot for free

Visit www.simplemachinesmarketing.com/hubspot

**SIMPLE
MACHINES**

START-UPS AND STUDENTS: EXPLORING FUTURE BUSINESS OPPORTUNITIES

SHAPEMASTER INC.

Why would you want to bring a tour of start-ups or students into your manufacturing plant to expose them to your work?

The motivation is twofold. First, it provides an opportunity to tell your story and show off your work. Second, it connects you to many local colleges and universities from which some neat little incubators and start-up laboratories have spun off to help commercialize new technologies.

Although manufacturing is fairly physical and not computer software or electrical in nature, these start-up companies will hopefully grow and need manufacturing advice and manufactured parts/physical components to house their technologies in the future.

These activities will bring you before young inventing minds, students, engineers and future geniuses. Some may never need your services, but you never know who they will know. It is a marvelous networking opportunity.

When a tour or group comes through your facility, consider giving them items you have made or even materials you use to make a product. This will allow creative minds to have a low-cost alternative for supplies and gives them something to put in their hands. They will remember this and call on you in the future perhaps or send someone else your way.

This should not be used to make a sale or attempt to win them over, however. The goal is to get them to think about the processes used in manufacturing with which they might not be familiar. Just watch their eyes light up when you tell a story of a problem that you solved and present them with the solution. Oftentimes even the most bored student will come alive and ask questions and take notes.

It is even more exciting to have tours come in when fun or unique projects are being machined, routed or formed/molded.

It may take some time to get involved with universities, but once they see what you can offer and that you show an interest in their work, many times they will give your contact information to other



department heads and away you go—working with them on another unique project.

At times you might be asked to go to the campus to speak to students who are having a problem with a project and there will be no financial gain. That is not why you go. You must choose to give of yourself first and then they will draw out the wisdom and experience from you and your team. This makes for some good exposure and at times great publicity.

Start-up companies can be a challenge at times. Most are small and have limited resources. Sometimes they just need some time and materials. That's okay. You are investing. Do it and wait for a return.

Advertising has changed over the years. The phone and yellow page ad have become a dinosaur and the website and internet have become the go-to way to find a vendor or a solution provider. You still need to get to know people and make friends. The best way is to seek out inventor groups, start-up and incubator facilities, high school shop and agriculture teachers, and the colleges and universities in your region. Making friends seems like old school, but it's really pure networking. Arrange to speak at a school.

A university club many need help. Perhaps a professor is developing a new process or device and can benefit from a corporate sponsor. Reach out to see who you can help in your region. You might be surprised what comes back to you.

Connecting new business owners with other organizations that are helpful resources is another way to provide needed assistance. One such resource is SCORE—The Service Corp of Retired Executives: www.score.org. This group links you with a retired executive who gives of their time to assist with a business plan, advice, how to find a banker, what a bank looks for and how to ask for a loan.

Learn from those who are older, wiser and more experienced. Don't be afraid to ask questions.

The worst is they can say is NO.

By reaching out to start-ups and students, you can offer your wisdom, experience and knowledge. In return, your business gains prospects for the future. You simply never know who you may be meeting when you reach out and help others. ♦

About the Author: Ken Cooley is the Founder and CEO of ShapeMaster Inc. He may be reached at ken@shape-master.com or (800) 779-6925.

IMPROVING WORKPLACE SAFETY THROUGH WEARABLE TECHNOLOGY

SENTRY INSURANCE

Technology has become an integral part of our daily lives. Modern devices are now designed to serve multiple purposes, providing many of us with connectivity and convenience in our day-to-day activities.

Similar to how wireless phones evolved to incorporate new functions, processors are now designed to be more powerful and seamlessly integrated with the Internet of things (IoT)—expanding the use and functionality of industrial applications in the manufacturing space. Sensors can capture and provide large amounts of quantitative feedback in a digestible platform, offering businesses instantaneous access to safety data.

By using inertial measurement units (IMUs), wearable sensors can collect environmental, physiological, and positional risk data. With real-time feedback, manufacturers can then use that data to coach their team and provide immediate adjustments to reduce potentially hazardous workplace habits.

Below are just some of the many ways you can use this emerging technology and data to improve workplace safety.

Ergonomic Evaluation and Control

According to 2018 data from the Bureau of Labor Statistics (BLS), 30 percent of all private sector workplace injuries that resulted in at least one day away from work were related to musculoskeletal disorders. Wearable devices can address the ergonomic risks related to these disorders.

Using haptic feedback through vibration or audible noise, the devices capture information on high-risk movements made by employees—such as trunk rotation, side bending, repetitive motions, sustained/impact forces, and other awkward postures.

This data can help workers use safe working techniques in real time, while also creating a risk profile where data can later be used to drive smart, strategic safety conversations. In situations where postural corrections are difficult to achieve due to the nature of the work, companies may

consider wearable exoskeletons to provide physical support and reduce forces during high-risk tasks.

Personal Protective Equipment (PPE)

In situations where fatigue is likely to occur, or where its potential could have catastrophic consequences, businesses are investing in smart PPE such as headwear inserts. Using brain wave technology, smart PPE is capable of detecting worker fatigue and microsleeps, using alert systems to signal the user to take a break before an accident occurs.

THE ABUNDANCE OF INFORMATION COLLECTED THROUGH WEARABLE DEVICES ALLOWS MANAGERS TO PAINT A COMPREHENSIVE PICTURE OF RISKS ASSOCIATED WITH CERTAIN JOBS OR TASKS WITHIN AN ORGANIZATION.

As data is collected, users are provided personalized information detailing their optimal and riskiest timeframes throughout the work shift. By receiving fatigue levels in real time, workers are empowered to make behavioral or lifestyle changes to help keep themselves and others safe.

Proximity Detection

In situations where workers may interact with equipment, machinery, or other hazardous conditions, proximity detection can serve as a warning indicator by reducing the likelihood of contact between an employee and the hazard. These wearable sensors use Bluetooth® technology to measure received signal strength indications (RSSI), which determine the distance

between sensors.

More recently, as workplaces are faced with new challenges like social distancing during the era of COVID-19, they can use wearable technology and haptic feedback to ensure employees are alerted when the recommended six-foot barrier is crossed. Should an exposure occur, organizations can refer to the analytics to provide accurate contact tracing and identification of facility hot spots. As hot spots are identified, businesses can take administrative actions and additional cleaning measure to prevent re-occurrence.

Environmental Monitoring

Many workplaces require employees to work across a range of environmental conditions, exposing them to different industrial hygiene hazards. Wearable devices can collect data points at high frequency intervals to help organizations understand their environmental exposures and assist with maintaining regulatory compliance.

Data points can be continuously collected on conditions such as noise levels (dBA), ambient temperature, air quality/contaminant levels, and humidity. These results can then be compared to industry-recognized exposure limits to ensure employees aren't overexposed to hazards.

The abundance of information collected through wearable devices allows managers to paint a comprehensive picture of risks associated with certain jobs or tasks within the organization. Assessing poor body postures, worker fatigue, proximity to a hazard, and exposure to environmental conditions are just a few ways in which organizations are proactively identifying workplace hazards.

By using these indicators, leaders can quantify risk in their organizations and implement control strategies before an injury occurs — a key component of a proactive and successful safety culture. Remember, as technology evolves, so do concerns about privacy, therefore it's best to consult your experts for guidance. ♦

MEMBERS IN THE NEWS

Deere Hoping to Harvest Benefits From 5G

By instilling a mix of innovation, ingenuity and state-of-the-art technology into each tractor, combine or planter, John Deere has made a name for itself as a leading producer of smart agricultural equipment. As a result, the company empowers today's farmers to efficiently utilize every inch of usable land.

Of course, producing such technologically advanced equipment requires a significant dedication to manufacturing technology well before it ever reaches a farmer's field. Simply put, it requires a commitment to Industry 4.0 and constantly looking for ways to improve operations.

This is ultimately what drove John Deere to participate in the FCC's auction to acquire 5G spectrum this summer. The company had its eye on the opportunities the latest technology could enable within the digital manufacturing space.

"We want to optimize our digital environments – and not only what's here now, we want to be ready as technology continues to accelerate," says John Deere's Manager of Manufacturing Innovation and Technology Strategy Craig Sutton. "After looking at the available spectrum space, it was the right opportunity to make investments in some strategic locations where Deere has some of its larger manufacturing facilities."

Specifically, with its win at the auction, John Deere will now implement 5G (with rollouts during fiscal year 2022) at its manufacturing facilities in the following counties: Rock Island, Illinois; Scott County, Iowa; Dubuque, Iowa; Polk County, Iowa; Black Hawk County, Iowa.

ADM, InnovaFeed Announce Construction of World's Largest Insect Protein Facility in Decatur, Illinois

ADM, one of the world's leading human and animal nutrition providers, and InnovaFeed, the world leader in producing premium insect ingredients for animal feed, today announced plans to collaborate on the construction and operation of the world's largest insect

protein production site, in Decatur, Illinois. The facility will be owned and operated by InnovaFeed and will co-locate with ADM's Decatur corn processing complex, with ADM supplying feedstocks, waste heat and more. Together, these investments will bolster economic growth and job creation in Decatur and central Illinois while continuing to strengthen the state's position as a center of innovative, sustainable agriculture.

Insect feed has become an increasingly popular protein ingredient for the agriculture and aquaculture industries, as demand for animal feed has now reached an all-time high and consumers look for food that is sustainably and responsibly grown. InnovaFeed already operates two insect production facilities in France, including what is today the world's largest. The Decatur facility represents InnovaFeed's first international project.

"InnovaFeed's decision to bring their first ever international facility and state-of-the-art agriculture technology to Illinois is a vote of confidence for our state, and a win for our farming communities," said Governor JB Pritzker. "Illinois has always been a global leader in agriculture and technology, and we offer the resources to support this major international expansion – with an educated workforce, proximity to global businesses like ADM, and access to shipping and logistics. The investments InnovaFeed is making in Decatur will not only support our thriving agriculture industry – a cornerstone of our economy – but will unlock new well-paying jobs for our communities."

BMO Harris Launches \$5 Billion Program to Help Black and Latino Businesses and Communities, with 'Significant' Investment in Chicago

BMO Harris is launching a \$5 billion initiative to support minority-owned businesses and communities, with a significant investment earmarked for Chicago.

The five-year program, announced

in November, will increase commercial lending opportunities for Black and Latino businesses, which have been hard-hit during the pandemic. It also will include direct investment in underserved communities through affordable housing and neighborhood revitalization.

"We've seen the disparate impact that it (COVID-19) has had on communities of color during the economic downturn," said Eric Smith, a Chicago-based vice chairman at BMO who is heading up the program. "We wanted to make sure that we could provide targeted assistance to not only small businesses, but to minority businesses as well."

Nearly a quarter of small businesses in the U.S. have closed since the start of the year, according to September data from Harvard University's Opportunity Insights. Smith said the closure rate among minority-owned small businesses is likely twice that.

The program includes commitments of \$3 billion for community reinvestment, \$500 million for mortgage loans in low- and moderate-income communities and \$500 million for commercial lending.

"We are going to set up a special loan program for Black and Latinx small businesses," Smith said. "As part of that, we will train our branch bankers to work with small business owners as they come in seeking access to loans."

"It's important to make sure you go beyond just what's required," Smith said. "It's about making sure that you can really invest in the future and promote economic recovery."

M&M Maker Mars Agrees to Purchase Owner of Kind Snack Bars

Mars Inc., the maker of M&M candy and Ben's Original rice, has agreed to acquire snack-bar maker Kind North America.

Kind will become "a distinct and separate business within the Mars family of companies," Mars said in a statement Tuesday. The companies had already partnered in an effort to expand Kind products into international markets.

Kind founder and Executive Chairman Daniel Lubetzky will remain in-

volved in the brand and retain a financial stake. The companies did not release financial terms.

The New York Times, which earlier reported the deal, said Mars placed a \$5 billion valuation on Kind, citing unidentified people familiar with the terms.

Mars, which bought Chicago's Wrigley brand in 2008, has its global confectionery headquarters in Chicago.

The companies worked together over the past three years to bring the Kind brand to more than 35 countries and develop new products such as smoothie bowls and frozen bars.

Kind, founded in 2004, has captured market share in the snacking category by marketing itself as healthier and touting simple ingredients without artificial sweeteners. Consumers have gravitated toward packaged food that's marketed as natural and without additives in recent years.

The brand will add another category to Mars' roster of products, which range from Dove chocolates to Whiskas cat food.

Horizon Therapeutics plc Donates Additional \$1.2 Million to Support COVID-19 Relief Efforts in Illinois and Other Impacted U.S. and International Communities

Horizon Therapeutics plc announced on November 30 that it has provided \$1.2 million in additional funding to U.S. and international organizations to support COVID-19 relief efforts, including: The Chicago Community Trust, The Lake County Community Foundation, Silicon Valley Community Foundation, Greater Washington Community Foundation, AmeriCares, ALONE, Family Carers Ireland, Enable Ireland and Toronto Foundation.

Throughout 2020, Horizon has also provided more than \$1 million to advocacy organizations to support COVID-19 relief initiatives for people living with rare and rheumatic diseases. This includes educational resources, emergency financial relief and internet connectivity to facilitate continued care via telehealth.

"We recognize that the COVID-19 pandemic is currently impacting more families, communities and organizations than ever before," said Tim Wal-

bert, chairman, president and chief executive officer, Horizon. "As a global company, we believe it is our fundamental responsibility to support these foundations and organizations so they can thrive and continue to help the communities they serve."

"While the devastating health and economic crises caused by COVID-19 has disproportionately impacted Chicago's Black and Latinx communities, we have a once-in-a-generation opportunity to build a more equitable recovery," said Dr. Helene Gayle, president, chief executive officer, The Chicago Community Trust. "We are grateful for the support of Horizon Therapeutics as we know it's going to take an unprecedented coalition, across philanthropy, business and communities, to transform the systems that have held back communities of color for centuries."

S&C Electric Company Exceeds Half a Million Dollars in Funds Raised for Local Chicago Community Charities

S&C Electric Company, a leading grid innovator improving power reliability and delivery worldwide, announced in September its annual employee-driven charitable campaign collectively raised more than \$500,000 for CHC: Creating Healthier Communities, Feeding America, Misericordia, and United Way. This annual giving campaign is a longstanding company tradition, and 2020 was the most successful year yet. Funds were raised through team member donations, with S&C matching all donations by 150 percent.

"I joined S&C at the beginning of the COVID-19 pandemic knowing of the company's strong values and century-long commitment to supporting the communities in which we work," said Anders Sjoelin, president and CEO of S&C Electric Company. "It's been both heartening and inspiring to see our team members' continued commitment to helping those in need, particularly during these unprecedented times. On behalf of our team members, I'm honored to present checks to CHC: Creating Healthier Communities, Feeding America, Misericordia, and United Way to help support their respective services, which are needed more than ever."

S&C's annual giving campaign un-

derscores its core values and guiding principles of excellence, respect, integrity, and responsible stewardship. Since the inception of the S&C annual giving campaign, the company has continually surpassed its annual campaign goals, with this year being no exception in spite of the pandemic. In recognition of the additional hardship brought on by COVID-19 nationwide, 2020 marked the first year S&C raised funds for Feeding America alongside three other Chicago-based organizations, with the intention of supporting local communities experiencing financial difficulties during the pandemic crisis.

Suncast Corporation Partners with Joliet Junior College to Offer Apprenticeships

Suncast Corporation and Joliet Junior College are partnering through JJC's Registered Apprenticeship program to develop a talent pipeline of skilled workers in advanced manufacturing. Jim Ahlborn, senior vice president at Suncast Corporation said, "We are in a period of dramatic growth right now as a company, with ambitious plans for the next 5-10 years, and we need to strengthen our bench with talented people who can help get us there."

Apprenticeship programs combine on-the-job learning with related instruction in technical areas to produce qualified, highly skilled employees for careers that require precision skills. Suncast Corporation's areas of focus include automation technician (industrial maintenance mechanic), AutoCad technician, and injection molding set up technician (injection molding machine operator).

The Batavia-based company also recently signed their first apprentice. Alexis Travis will work as an automation maintenance technician as part of her on-the-job learning while also taking classes at JJC for the related technical instruction.

Mark Kimmey, automation maintenance assistant manager at Suncast Corporation explained that Alexis will be working on the automated equipment that assembles hose reels and shovels as well as learning about the safety circuits and the sequencing of the fixtures. ♦

NEW IMA MEMBERS

CLOWN GLOBAL BRANDS LLC

Northbrook, IL

CONSTRUCTION SOLUTIONS OF CHICAGO

Villa Park, IL

CQ + MFG GROUP LLC

Machesney Park, IL

CRESCO LABS

Chicago, IL

DEARBORN TOOL & MANUFACTURING, INC.

Burr Ridge, IL

DEC TOOL CORP

Saint Charles, IL

DEINES-NITZ SOLUTIONS

Erie, IL

DOMNEY TOOL & STAMPING CO.

Wauconda, IL

EAGLE FLEXIBLE PACKAGING

Batavia, IL

EFFINGHAM REGIONAL GROWTH ALLIANCE

Effingham, IL

FAST PIPE LINING, INC.

LaSalle, IL

FORGINGS & STAMPINGS INC

Rockford, IL

GALL MACHINE CO INC

Countryside, IL

GALLON INDUSTRIES DBA BM WELDING SERVICE INC

Addison, IL

GHAFARI ASSOCIATES

Chicago, IL

GREAT LAKES CONCRETE LLC

Chicago Heights, IL

GREEN W ASSOCIATES INC

Downers Grove, IL

HOWE CORP

Chicago, IL

HTS COATINGS, LLC

Madison, IL

INSTRACUT DIECUTTING INC

Chicago, IL

KEYSTONE CONSULTING GROUP

Chicago, IL

KKM STRATEGIES, LLC

McHenry, IL

LATHROP GPM

Chicago, IL

LMT, INC.

Galva, IL

M. LIZEN MANUFACTURING COMPANY

University Park, IL

MAGNUM MACHINING, LLC

Richmond, IL

MET2PLASTIC LLC

Elk Grove Village, IL

MET-L-FLO INC

Sugar Grove, IL

NAROD CONSULTING GROUP

Northbrook, IL

PLAZA TOOL AND MOLD CO.

Wheeling, IL

PUBLIC AFFAIRS COMPANY

Minneapolis, MN

REBCO MACHINE SPECIALTIES INC

Westmont, IL

S & B FINISHING CO INC

Chicago, IL

SHARE MACHINE AKA PRECISION LATHEWORKS

Aurora, IL

TRIM-TEX INC

Lincolnwood, IL

VISUAL DECISIONS INC.

Round Lake, IL

WEILER ENGINEERING INC

Elgin, IL

WILLIAM DUDEK MANUFACTURING CO

Chicago, IL

THANK YOU, SPONSORS

The IMA relies on our members for their content and willingness to share their expertise with other members. Throughout the past year, the following companies shared their time and treasure in support of IMA programming. We are greatly appreciative of their investment in the IMA.

Business Day

Abbott
Bison Gear & Engineering Corp
BlueCross BlueShield of Illinois
Caterpillar
Constellation
Deere & Company
ExxonMobil
EY
Falex Corp
Ice Miller LLP
The Inland Real Estate Group

Annual Luncheon

Abbott
American Airlines
Archer Daniels Midland Co
AT&T
Aurora Metals Division, LLC
Bank of America
BDO USA, LLP
BKD
Blistex Inc.
BlueCross BlueShield of Illinois
BMO
BNSF Railway
bopi
C. Cretors and Company
Caterpillar
Cedar Concepts Corporation
Coca-Cola Company
Comcast
Commonwealth Edison
Constellation
CSL Behring
Deere & Company
Diageo
Enbridge, Inc.
Equitable
ExxonMobil

Falex Corp
Ford Motor Company
FLSmidth Inc
FTI Consulting
Gilster-Mary Lee Corporation
Hunting Works for Illinois
iBIO
Illinois Retail Merchants Association
IMAEF / ICATT
IMEC
Ingredion
International Paper
Leaders Bank
Motorola Solutions
Onken's Inc.
State Farm
The Boeing Company
The Inland Real Estate Group
United Airlines
United Scrap Metal
Vistra Energy
Weber-Stephen Products, LLC

Programming

AM Transport
Assurance Agency
Bank of America
Barnes & Thornburg
BDG International
BDO USA
BKD
BMO Harris Bank
BP
Bronswick Benjamin CPAs & Advisors
Caterpillar Safety
Clark Hill
CNA
Conn Maciel Carey
ConnectFood
Constellation
CSL Behring
Cushman Wakefield
Equitable
Federal Reserve Bank of Chicago
Georgia-Pacific
Greensfelder, Hemker & Gale, P.C.
HeplerBroom
Husch Blackwell

IceMiller
IMEC
Ingredion
International Trade Association of Greater Chicago
Johnson & Johnson
KRD Accountants
Lake County Partners
Leaders Bank
Miller Canfield
Newport Group
Philippi-Hagenbuch, Inc.
Pioneer Service, Inc
Presidio
Rockford Area Economic Development Corporation
RSM US LLP
Sanofi
SBA
SIEU SBDC
SmithAmundsen
The ROC Group
The Will Group
United Scrap Metal
WSI Digital Group

Who can simplify my energy purchasing decisions?

Constellation is the easy answer to complex energy purchasing decisions. Energy professionals at Constellation, the IMA endorsed energy supplier, work with IMA members to manage energy costs to protect their bottom line. Using a customized strategy, integrated energy solutions, and efficiency and sustainability programs, we have the solutions you need to fit your budget.

To learn more about participating in the IMA energy program, contact please contact Rich Cialabrini at **richard.cialabrini@constellation.com** or **847.738.2510**.



associations.constellation.com/IMA



© 2020 Constellation Energy Resources, LLC. The offerings described herein are those of either Constellation NewEnergy-Gas Division, LLC or Constellation NewEnergy, Inc., affiliates of each other and ultimate subsidiaries of Exelon Corporation. Brand names and product names are trademarks or service marks of their respective holders. All rights reserved. Errors and omissions excepted.

Constellation is the endorsed energy supplier of this association which receives compensation for its promotional and marketing efforts from Constellation.