

Impel

Informing the workforce that keeps America moving

Cover Story:

Six Reasons for Manufacturers to be Proud

Optimism about the future is at an all-time high among U.S. manufacturers.

In a recent survey by the National Association of Manufacturers (NAM), 95 percent of those polled were positive about what lies ahead for their companies.

Chicago area manufacturers were almost as enthused, they told the Technology & Manufacturing Association (TMA) headquartered in Schaumburg, Illinois. Over the past year, 82 percent of TMA members were optimistic about the future.

Those statistics reflect a renewed public awareness of the value and importance of manufacturing. After all, there are three main ways of producing wealth: farming, mining and manufacturing. The United States, with its abundance of natural resources and good soil as well as human ingenuity, is a worldwide leader in all three.

Experts emphasize six reasons manufacturing – what you do every day – is so important to growing a healthy economy:

1. Throughout history, manufacturing has been key to a nation's prosperity.

C&L Supreme



2. Nations that not only manufacture goods but create machinery that makes goods have the highest wages and living standards.
3. The growth of manufacturing machinery output and technological improvements drive economies.
4. Global trade is based on goods, not services.
5. Services depend on manufactured goods.
6. Manufacturing creates jobs.

There are six reasons why what you do every day on the shop floor is crucial to the United States.

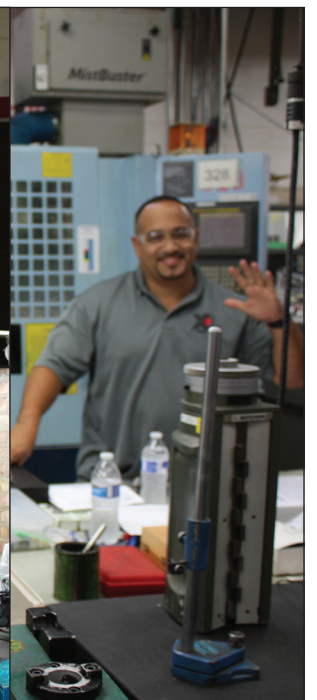
And that doesn't even begin to touch on how what you do every day is important to your company, your co-workers, your family and yourself.

That's six reasons to be proud of what you do.

Allied Specialties



X-L Engineering



From Ireland to one of America's top manufacturing headquarters

Colin Cosgrove



Colin Cosgrove started at Laystrom Manufacturing as a sales manager. Ten years later, he is leading the Chicago company's sales and operations.

Laystrom, founded in 1951, is a full-service provider of precision sheet metal fabrications and component parts, value-added assemblies, and low and high-volume metal stampings.

Colin started in manufacturing with no special training. He got his first job in America in 1994 at age 20, when he migrated to the U.S. from the west coast of Ireland.

"A cousin of mine knew the vice president of a manufacturing company, and he gave me the job at the floor level," Colin said. "I don't see that I offered anything exceptional," he said, "and here I am vice-president of Laystrom now. I hope that encourages others just getting started."

Laystrom's 60 employees meet together every morning to plan their days. Colin says while it's important to train the



Laystrom Manufacturing

next generation of machine operators and toolmakers the skills they need to do their jobs well, it's also important to provide skills on how to think as a part of a team.

"For instance, an operator could do his job and just pass on the product's problems on to the next person," Colin said. "But if he has the ability to think and understand that he has an opportunity for input, perhaps he could figure out how to correct the issue, make suggestions to correct it, and not just pass it off. We want our team to think of their responsibilities to fellow employees, to our customers and shareholders," he said. "That will

happen if they're doing their work with these core values of safety, respect, collaboration, and continuous improvement in mind every day."

The father of two girls says a substantial part of his leadership philosophy comes from people he's met through TMA's substantial network of manufacturers. "A lot of people push to find their marketing niche, their singular areas of expertise," he said, "but if a company isn't doing fundamental blocking and tackling – it's not going to succeed."

Laystrom Manufacturing is located at 3900 West Palmer in Chicago and on the Internet at www.laystrom.com.

Colin Cosgrove at Laystrom Manufacturing



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Manufacturing news for TMA membership teams. This newsletter is recyclable.

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Introducing “Impel” – News for TMA Membership Teams

“Impel.”

It’s a word you probably don’t hear much, but it’s one that affects your work each and every day. And it’s why the Technology & Manufacturing Association is using the word “Impel” to name this newsletter and launch a conversation with you.

Your employer is a member of TMA, and we at TMA are committed to helping our members succeed. We know that our members’ teams are crucial to their success – and that’s why we’ve asked them to open the door to hear from their teams.

Your input is important to all of us. It’s how employers build success – by learning what causes you to do the excellent

work you do every day. Whatever “impels” you is what moves you and thousands of others forward – to advance your skills, your teamwork goals, and your efforts on the job.

What motivates you is what “impels” you from down deep inside.

TMA is interested in learning more about you, your teammates and your ambitions for the future.

Let’s start a conversation with the first edition of “Impel.”

Let us know your thoughts about what you’d like to read about in future editions by emailing us at Impel@TMAIllinois.org.

From operating a grinding machine to running a 420-employee company

When Wes Gardocki joined Termax Corporation in 2001, he was hired on as a quality manager. Soon after, he moved into production and became a production manager. He then moved up to director of operations, then vice-president. In January 2015, he became the 420-employee company’s president.

Gardocki, now 51, started as a grinding machine operator right out of high school. He was 15 years old when his father died, causing him as the oldest son to step up and take on family responsibilities.

“My Polish immigrant mother did not believe in debt, so borrowing money to go to college was out of the question,” he said. But that didn’t hinder Wes. He rose to the top of Termax Corporation, a company that specializes in metal and plastic fastener solutions.

While Termax primarily services the automotive industry, their products and services are used by other companies that demand quality engineered clips and fasteners for appliances,

Termax Corporation



lighting, toys, construction, and automotive aftermarket providers.

Wes says he’s hired TMA-trained skills and competition stars. “We’re very pleased with the

three that have come to us from TMA training,” he said. “Altogether, we have the greatest team on earth here at Termax. My team will bend over backwards to help each other and the customers. Our managers pull together and respect one another. These guys are the greatest.”

Wes plans to continue at Termax for years to come. “I hope I’m lucky enough to retire from this company. I’ve been blessed for the past 17 years. I don’t feel like an employee and I never have dreaded getting up in the morning,” he said. “My work is for the employees of Termax.”

Termax Corporation is located at 1155 Rose Rd Lake Zurich, IL 60047 or on the web at Termax.com.



Wes Gardocki

University of Illinois grad raves about TMA Die Design Class

Holly Siwinski, 25, was the only girl in TMA’s Fall 2017 Die Design Class. That didn’t bother her at all. She was one of ten women that earned a mechanical engineering degree among a couple of hundred men at the University of Illinois in Chicago in 2013.

That year, she interned for three months at Principal Manufacturing in Broadview, Illinois. When she completed her degree, she went back to Principal and they hired her on as an engineer administrator and junior tool designer.



Holly Siwinski

“My job is to design fixtures, gauges, make digits to dies and do digit analysis for our engineering department,” she said.

At the University of Illinois, Holly took chemistry and physics classes, learned about metals, plastics, sand casting and molding – all information crucial to the work she does today.

Learning how to use the Solidworks software is worth the time and effort, she said.

“I love the class. I use Solidworks every day at work,” she said. “There’s actually things I’m learning about Solidworks that I never knew before – just from what TMA is teaching us - like little shortcuts that I use at work every day now. It’s very, very helpful.”

What will Holly be doing in ten years? “I honestly don’t know,” she said. “I would like to see where this die design thing will take me – but something in aerospace would be really cool.”

From sweeping floors to making Optimus Prime’s sword

In the Age of Extinction, the fourth in the popular Transformer film series, one of Optimus Prime’s two swords is destroyed by Decepticon Galvatron’s chest grinder. Optimus then acquires a knightly longsword as his weapon of choice – one among six other swords featured in the 2014 hit.

One of those Transformer swords originated at Elk Grove Village’s Chicago Waterjet, INC.

“We got a call from a person associated with the film’s production, asking us to cut a sword they would use CGI [computer-generated imagery] with,” Justin Kurlowski, Chicago Waterjet’s shop foreman.

Chicago Waterjet also helps out TV series Chicago PD cutting parts for their filming rig. They also helped created the New Year Eve star that drops during Chicago’s downtown celebration.

“I like knowing about the parts we’re cutting – how they’re being made and where they’re going to be used,” he said. “It’s one of the best parts of machine shop work.”



Justin Kurlowski

Justin started at Chicago Waterjet sweeping floors part-time in 2012. Soon after he started, one of the shop guys quit, and Justin was asked if he’d like to operate a machine. He jumped at the chance.

“If you’re willing to learn, you can go up the ranks fast,” Justin said. “But if you stay complacent or comfortable with what you’re doing, then you’ll never really going to move up.”

As shop foreman, Kurlowski programs and operates the waterjet cutters along with making sure customers get the attention and assistance they need. “I like being involved in making the parts, but I am interested in both sides,” he said. “I also like quoting jobs and making sure customers are taken care of, and that we respond to them quickly.”

Justin sees himself in ten years possibly owning his own business. He says he has never been interested in sitting at a desk, staring into a computer day after day. Manufacturing and technology are fields more high schoolers should consider, he said.

“There are lots of opportunities,” he said. “If you’re going to get into a machine shop, don’t go in there saying, ‘This is my job, I’m going to come in here and do this every day.’ Always try to be learning at the job, asking questions ... that’s how you learn and move up the ranks.”

Chicago Waterjet is located at 2452 American Lane in Elk Grove Village, Illinois and on the web at www.ChicagoWaterjet.com.

Chicago Waterjet





Steve Rauschenberger

Welcome to the first edition of the Technology and Manufacturing Association's (TMA) employee newsletter, **Impel**. We hope you enjoy it, and if you do, please say thanks to your managers or company owner.

TMA is an association of small and mid-size manufacturers in the greater Chicago area. TMA provides programs and services to help strengthen your company and provide big-business buying power that's usually unavailable to smaller companies.

With the support of your company, TMA wanted to share occasional newsletters to

help keep you up to date on trends and issues in our area that affect manufacturing.

Please be patient with us as we work to develop this newsletter and let your company's leadership know what you think about it.

We appreciate TMA members and their willingness to let us share this newsletter with you.

Sincerely,

Steve Rauschenberger
President, TMA

What is tma

Technology & Manufacturing Association

TMA stands for the Technology & Manufacturing Association, a network of Midwestern small- and medium-sized manufacturers that originated in 1925.

TMA offers an array of services to its members, including a broad spectrum of training to get started in manufacturing to highly advanced technological skills to providing manufacturers with health care programs, 401k sources for their workforce to networking opportunities.

The association's headquarters and training center is located in Schaumburg, Illinois with an M-Hub extension center in downtown Chicago. They also offer online courses. TMA's instructors include some of the most NIMs-certified experts in the nation, providing what's well-known as the "gold standard" in manufacturing skills training.

Check out all TMA has to offer at the website www.TMAIllinois.org. Also visit TMA's Facebook page, Twitter feed and news site: www.TMANews.com.

Winner

Impel Live Facebook Challenge

E-mail your name and the TMA member manufacturer you work for to info@tmaillinois.org by noon CST on September 30, 2018 to enter Impel's first-ever drawing. One entry per name will be accepted. The drawing will take place live at noon on TMA's Facebook page October 2nd, 2018. Winner will win a \$50 Amazon Gift Card. Winner will be notified via email.



What will Industry 4.0 look like?

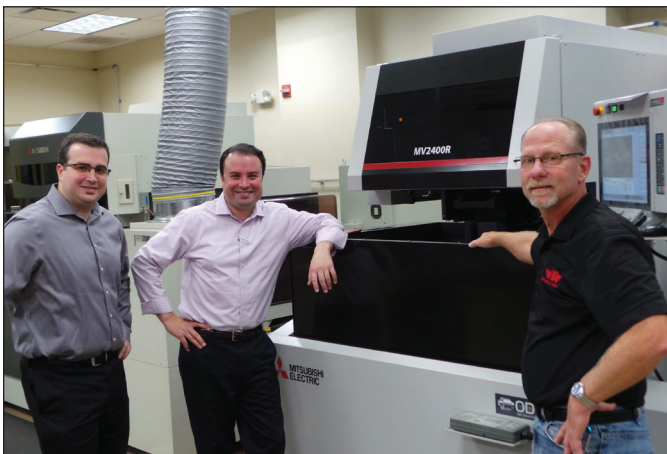
X-L Engineering

The world is in the midst of its Fourth Industrial Revolution, commonly referred to as Industry 4.0. This latest stage is light years beyond the First Industrial Revolution's factories, the Second Industrial Revolution's automobiles, and the Third's computers.

Industry 4.0 is powered by smart manufacturing, robotics, artificial intelligence and the Internet of Things (IoT). The World Economic Forum projects these five Industry 4.0 changes:

Seeing around corners in 360° –

New tools are allowing companies to create and test situations in the virtual world, to simulate the design process



Wiegel Tool Works

and the assembly line before an actual product is created. Simulating the product-creation phase helps cut down on manufacturing time and ensure the process delivers what companies intended to create. Augmented reality solutions for remote assistance allows people in different locations worldwide to connect with live view and trouble-shoot together.

Viewing the fourth wave in 3D –

Another advancement is 3-D printing, which allows for the seamless creation of tangible products using a single machine. This change provides limitless possibilities in part designing and waste reduction.

Advanced manufacturing on autopilot –

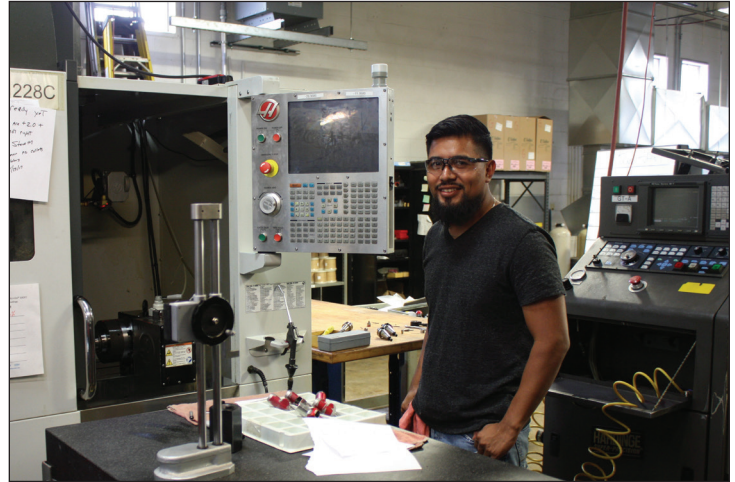
Automation enables a level of accuracy and productivity beyond human ability – even in environments that would be considered unsafe for humans. The new generation of robotics is not only much easier to program, but easier to use, with capabilities like voice and image recognition to re-create complex human tasks. Another advantage of robots is that they do precisely what you ask them to do – nothing more, nothing less.

Building intelligent factories in the cloud –

In addition to robotics and virtual reality, factories environments are also driving advancements in cloud computing and smart sensors. Smart sensors can perform tasks

such as converting data into different units of measurement, communicating with other machines, recording statistics and feedback and shutting off devices if a safety or performance issue arises. IoT functionality can track and analyze production quotas, consolidate control rooms and create models of predictive maintenance.

Robots on the rise managed by humans – While there are still some significant challenges ahead, the outlook is strong despite



the obvious concern of robots displacing jobs. The bulk of automation is used for work that would be considered unsafe or impossible for humans. This makes robots a complement to, not a replacement for, human workers. Because of robots, we'll be able to increase our output.

It's tougher to imagine what manufacturing workplaces will look like in thirty years, but it's fairly easy to project the kinds of specialists Industry 4.0 will demand: those that can build hardware, software and firmware; those who can design automation and robotics; and those who can adapt and maintain new equipment. And those willing and ready to learn the needed skills.

Welcome to Industry 4.0 – we're nearly there.



ODM Tool & Mfg.