





SEND MIDWEST INTO HEATED ENERGY DEBATE

THE IMPACT ON MANUFACTURING



tma news bulletin

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technology & manufacturing association

Founded in 1925, the Technology & Manufacturing Association (TMA) represents and supports manufacturers in the Chicago metropolitan area and surrounding counties in northern Illinois, northern Indiana, and southern Wisconsin. TMA has almost 1,000 members representing over 32,000 employees and nearly 26 million square feet of manufacturing plant.

TMA is governed by a Board of Directors, composed of executives from member firms. A full-time professional staff works closely with the Board, its committees and trusts.

table of contents



Cover Story: Environment Debate and Manufacturing

Page 4



TMA HR Peer Group Discusses New State Laws

Page 6



Affiliate Focus: Tim Montague Continental Electric Co.

Page 7



Member Profile: Rich Hoster, Smith and Richardson, Inc.

Page 8



Elgin H.S. Places in Machinging Competition

Page 10



Manufacturing Op/Ed: Nicole Wolter, HM Mfg. Inc.

Page 11



Meet the TMA Staff: Justyna Bernas

Page 12



3rd Ridgewood H.S. Class Completes CNC Training

Page 14



St. Charles H.S. Participates in Solutions Competition

Page 15



tma | new members

Welcome to the newest members of the Technology & Manufacturing Association

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message from the president



TMA Members & Friends,

As citizens of Illinois, at least we can say we are blessed to live in interesting times. We traded one billionaire governor for another billionaire governor. Hopefully we will not have to endure another four-year, "on-the-job" training as a second man who has never held a public office takes the helm in Springfield.

I admit, the first few weeks have not been encouraging. In his first act as Governor, J.B. Pritzker declared that the Governor's staff and cabinet officials were underpaid. He asserted that they need at least twice the salary allowed under law.

His second major decision was to grant retroactive raises to thousands of state employees, fulfilling promises made by Governor Quinn, but disputed by Governor Rauner.

The new Governor next held a press conference and announced that Illinois would abide by the Paris Climate Accord that President Trump had withdrawn the United States from.

All these things before the new Governor had even seen an analysis of the current State of Illinois finances.

Around 12.8 million people live in Illinois. Ninety-nine percent of these people are not insulated by personal wealth from the effects of ill-considered public policy. These people end up redeeming the "political" promises and commitments that elected officials agree to. They have a right to expect public officials to understand what a promise costs before it is made. I think it is high time for us all to demand more serious and thoughtful policy.

The Governor should be prepared to tell the citizens of Illinois what the Paris Accords will cost an Illinois citizen, an Illinois business, an Illinois taxpayer. It is time for all of us to demand more from those who hold the political power over our lives.

Steve Rauschenberger

FRIGID TEMPS SEND MIDWEST INTO HEATED ENERGY DEBATE

THE IMPACT ON MANUFACTURING

The last week of January 2019 brought with it some of the most frigid temperatures in decades for America's Midwest – and along with it, manufacturers' concerns about rising energy costs and demands, as well as curiosity about the dramatic weather swings.

The timing of the historical 50-below zero wind chill couldn't have been better for newly-inaugurated Governor J.B. Pritzker to announce his plans to add Illinois to 17 states already involved in the U.S. Climate Alliance. Since Illinois signed on, New Mexico and Michigan have also joined the effort.

"I ran on a bold agenda to protect our environment, help our workers thrive and build the 21st Century economy our state deserves, and now I'm taking action to join the U.S. Climate Alliance and stand on the side of science and reason," Pritzker said.

"I'm proud to join the bipartisan coalition of governors and states committed to upholding the provisions of the Paris Climate Agreement. While the president is intent on taking us backwards, I will work hard every day to move our state forward. We know that climate change is real. We know it's a threat. And we know we must act."

Illinois Chapter of Sierra Club director Jack Darin applauded the governor's efforts.

"By joining the US Climate Alliance as one of his first acts in office, Governor Pritzker is showing the world that, even though Donald Trump wants out of the clean energy economy, Illinois is all in," he said.

"We can and must reach these climate goals, and we know we need to do so in a way that puts our workers and disadvantaged communities first. We know Governor Pritzker shares these values and can unite Illinois in planning for the 100% clean energy future we all want, and that starts today."

Advocates say clean energy will emerge by cutting fossil fuel use by at least 70 percent. That, they say, will happen as more residents invest in energy efficiency, shift to using electric cars and trains, tap into clean power from the wind and sun and modernize the electric grid. They also want the U.S. to cut its greenhouse gas emissions 80 percent by 2050.

How realistic are U.S. Climate Alliance's goals?

Where is the American public on renewable energy? Are they willing to make the steep financial investments required to switch from fossil fuels to clean energy sources?

The average American these days is much more likely to believe global warming is causing more extreme weather events in the United States than he or she was ten years ago, recent surveys show. But they still aren't eager to pay more in taxes to fight against it.

The debate between fossil fuels and renewable sources is one manufacturers can't set aside. Studies show manufacturers use one-third of the energy consumed in the U.S. They depend on a secure, affordable, reliable mix of energy resources to remain competitive. Energy is among manufacturers' biggest business expenses. The future of strong manufacturing is dependent upon access to energy.

Fossil fuels, while some will say are depleted more and more each day, are currently plentiful throughout the U.S. Over the past decade, the United States has become the largest oil and natural gas producer in the world.

The Trump Administration's Outer Continental Shelf (OCS) plan is opening additional areas for offshore safe oil and natural gas leasing. Energy manufacturers like Exxon Mobil and BP are investing billions in the U.S. due to the Trump Administration's friendly regulatory environment and tax reform.

Manufacturers require reasonably-priced, easily-accessible and dependable energy sources. On that front, fossil fuels meet the need.

On the other hand, manufacturers look to the future, reading the economy's tea leaves and trends. They ask themselves if fossil fuels are ultimately going to diminish and if that would that leave their businesses with unreasonable, cost-prohibitive energy bills? Should they take the plunge early into renewable energy for

their shops and benefit from tax credits for investing in greener sources? Or should they wait until technology advances and makes accessing renewables more dependable?

What will this energy alliance cost businesses?

Those questions are on manufacturers' minds as they consider the investments changing power sources would demand, policy analyst Mark Glennon of Wirepoints.com told TMA News Bulletin.

"It's left to be seen how seriously Governor Pritzker will take the obligations that the U.S. Climate Alliance includes, but if he does take it seriously, it could be very costly for manufacturers based in Illinois," Glennon said.

"Due to decisions made several decades ago, Illinois has some of the more competitive electricity rates in the nation - rates that have benefited businesses," he said. "If Illinois takes this alliance seriously and fully implements the Clean Jobs Act Governor Rauner signed into law in 2015, the cost could be billions. While Illinois did not count the cost, surrounding states like Michigan did, and Michigan voters

rejected the idea due to the high projected cost."

James Taylor, Senior Fellow on Energy and Environment Policy at Arlington Heights' Heartland Institute, agrees with Glennon. The Paris Agreement imposes unfair energy restrictions on developed nations like the U.S., while allowing China more leeway. Signing states like Illinois on voluntarily to a similar measure could impose heavy costs on manufacturers, Taylor says.

"The Paris Agreement would have required the United States to make dramatic, costly cuts in greenhouse gas emissions while allowing nations like China to continue rapidly increasing their own emissions," Taylor told TMA News Bulletin. "Paris would therefore add to unfair trade practices and trade burdens the United States faces in regard to China.

The cost of producing American goods and services would necessarily rise, further impairing American business competitiveness and American living standards."

Taylor said any tangible measures Gov. Pritzker makes to restrict Illinois energy choices and impose expensive energy sources on Illinois will lower disposable household income and stifle the competitiveness of Illinois businesses.

"This is especially true for manufacturers, whose bottom line is heavily impacted by energy costs," he said.

U.S. Climate Alliance goals

So what does the U.S. Climate Alliance demand of those states that have signed on?

continued on page 10...



HR PEER GROUP **DISCUSSES NEW STATE LAWS**

The state of Illinois adopted 250 new laws that went into effect January 1, 2019, with three key measures of particular interest to Illinois employers:

- New Illinois Service Member Employment and Reemployment Act requiring rehiring of military personnel
- 2. New Wage Act amendment requiring expense reimbursement
- 3. Illinois Secure Choice requiring certain employers to enroll full- and part-time employees in Illinoissponsored Roth IRA savings plan

Each of the three new laws were discussed in late January during TMA Human Resource specialists' peer group meeting. Jeralyn Baran, attorney from Chuhak & Tecson PC. shared an overview of each.

Briefly, the Illinois Service Member Employment and Reemployment Rights Act imposes obligations on all public and private employers to protect the rights of military personnel to reinstatement following military service with the same seniority and pay and opportunities for promotion. The measure became effective January 1, 2019.

Secondly, the Illinois Secure Choice Savings Program Act requires profit and non-profit employers with at least 25 employees that have been in business for two years and have no retirement plan to participate in the state's new pension plan. Unless an employee options out, the employer is required to deduct five percent of the employee's gross pay and send to the state's Secure Choice program. The measure goes into effect at certain times depending upon the company size.

Finally, a new Wage Act amendment requires Illinois employers to reimburse required expenses. The amendment defines "necessary expenditures" as "all reasonable expenditures ... required of the employee in the discharge of employment duties and that inure to the primary benefit of the employer." The measure became effective January 1, 2019.

For more information on the laws, see Chuhak & Tecson's website at www.chuhak.com.

To learn more about upcoming TMA Human Resource Peer Group meetings, contact cdonofrio@tmaillinois.org.



The Tax Cuts and Jobs Act made significant changes to tax laws that impact manufacturers.

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TMA AFFILIATE FOCUS



TIM MONTAGUE CONTINENTAL **ELECTICAL** CONSTRUCTION CO.

Tim Montague heads up Continental Electrical Construction Co's Solar PV Sales & Business Development.

Continental Electrical Construction is a full-range electrical contractor providing commercial, industrial, structured cabling, and energy services since 1912.

Continental is the largest solar installer in Illinois. Known for quality and innovation, they have built over 75 projects and 23 MW of solar projects, including 3.5 MW Magid Glove in Romeoville and 2.9 MW IKEA in Joliet.

Mr. Montague answered these getacquainted questions for TMA:

Q: What book had the most impact on

A: "Life 3.0" by Max Tegmark - How to plan for the coming AI explosion.

Q: What's the most interesting place you've visited?

A: Nepal - Awesome trekking.

Q: What is your favorite holiday?

A: 4th of July - Getting together with friends and family for fun in the sun!

Q: What's your favorite sports team?

A: The Bears! The Badgers! I'm a WI alum.

Q: When people come to you for help, what do they usually want help with?

A: Turning their roofs into power plants.

Contact Tim at TMontague@cecco.com or Tim Montague or at 630.203.7729



RICH HOSTER

PRESIDENT, SMITH AND RICHARDSON, INC. TMA 2019 CHAIRMAN OF THE BOARD

By FRAN EATON

Rich Hoster has been Smith & Richardson, Inc.'s co-owner and president for nearly 25 years. He joined the company in the mid-1980s, soon after graduating from the University of Tulsa with a degree in finance and a concentration in chemical engineering. Upon starting at Smith & Richardson, Hoster was tasked with accounting and computerizing the business – a huge undertaking at the time.

"When I came here, there were no computers. It was 1987 when we installed Smith & Richardson's first computer network, and we did it all ourselves," Hoster told TMA News Bulletin.

Smith & Richardson will celebrate its 100th year in 2021. The 70,000 square foot building that houses the manufacturer on Geneva, Illinois' western side was built to produce chaplets – those all-important metal spacers used in sandcasting.

Last year, Smith & Richardson made 40 million chaplets, dominating the U.S. market. Despite 2018's impressive number, the demand for Smith & Richardson's original main product has dramatically decreased over the last several decades. And like any long-surviving manufacturer, the company adapted to the changing demands.

"Today, the majority of Smith & Richardson's business is machining," Hoster said. "We went from 16 screw machines to 32 before investing in CNC machines in 1994. Then we added Swiss CNC technology in the early 2000s."

The company now has a diverse customer base they serve with Swiss and conventional CNC, vertical/horizontal milling machines. Their clients include medical, aerospace, IT infrastructure, hydraulics, instrumentation, sporting goods and general industries.

Over the years as Hoster assumed more responsibilities, he was offered the opportunity to buy shares in the company. "It wasn't easy with a new wife and baby, but we made the sacrifices and did it," he said.

As the young family's investment grew, Hoster's vision for the company's future grew. When the owners decided to retire, Hoster and his partner, Phil Cowen, became co-owners.

Seven years ago, Smith & Richardson started a Chinese company that focuses on making chaplets, which continue to be more in demand overseas. Hoster travels to China every other month to oversee the company's operations.

"We had a rough start with the Chinese company," Hoster said. "At the time, their economy was growing slow, but we've come

a long way. We have a lot of automation there – something that is advanced for Asian companies."

Between Smith & Richardson's 22 employees in China and 50 in Geneva, Hoster sees the need to grow and develop workforce.

"Workforce is one of our biggest challenges," he said. "Twenty years ago, we had a robust workforce. Now manufacturing has a retiring Baby Boomer generation and is losing a lot of workers every day. That's a key reason we reach out to the next generation so much."

Hoster hired retired vocational ed teacher Ron Brown to organize outreach to area high schoolers. As part of the effort, Smith & Richardson initiated a mentoring program. They frequently host tours for local schools and transported two busloads of high schoolers to last fall's International Manufacturing and Technology Show in downtown Chicago.

"We want to give back to the community and change the image of manufacturing," Hoster said.

"We also see the importance of advocating politically for careers and manufacturing. It's important to build relationships with politicians and let them know how what they're doing affects what we do."

Hoster's second biggest concern is the constant regulatory changes with which manufacturers must deal. Trade associations like TMA keep their members informed, he said.

After serving on TMA's Board of Directors for the past several years, Hoster will be sworn in as TMA's new chairman of the board at the organization's 2019 annual meeting.

"I get much more out of TMA than I put in," Hoster said. "I value the network and friendships – and wish I would have gotten involved earlier. If we manufacturers can grow as a community, we're all better off for it. What we're doing at TMA will help manufacturing be strong and provide more chances for our members to be more successful."

"Small manufacturers are the salt of this country," Hoster said. "Without businesses like ours, planes don't fly and the nation doesn't move."

Knowing he's one of part of an industry so crucial to the U.S. is rewarding for Rich Hoster.

"I like to work. It energizes me to know the parts we're making are making a difference. It's also rewarding to see employees develop and move onto bigger and better things," he said.

"We've taken people out of high school and set them on career paths that benefit them and their families. What's better than that? Without people you're nothing. Business is nothing."

Smith & Richardson, Inc. is located at 727 May Street in Geneva, IL 60134-0539 and on the web at www.smithandrichardson.com



continued from page 5 FRIGID TEMPS SEND MIDWEST INTO HEATED **ENERGY DEBATE**

THE IMPACT ON MANUFACTURING

The U.S. Climate Alliance has a goal of "meeting or exceeding its share of the U.S. contribution to the Paris Agreement goals, and by protecting Americans from the impacts of unavoidable climate change." Meeting that goal will help the world avoid "catastrophic climate change by limiting temperature increases to well below 2 degrees celsius, striving for below 1.5 degrees celsius."

Each Alliance State commits to:

- Implementing policies that advance the goals of the Paris Agreement to reduce greenhouse gas emissions by at least 26-28 percent below 2005 levels by 2025;
- Tracking and reporting progress to the global community in appropriate settings, including when the world convenes to take stock of the Paris Agreement;
- Accelerating new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.

With those goals in mind, the Alliance will encourage the signed-on states to set "de-facto national standards" for appliances, vehicles, power generation and other "climaterelated" areas – with the goal of the U.S. returning officially to the Paris Climate Treaty.



"By demonstrating that coordinated climate action is good for Americans and the U.S. economy, a willing U.S. administration could build on the Alliance's work to scale up initiatives nationally," the U.S. Climate Alliance website says.

It's sure the debate will be heating up in the days to come. The Technology & Manufacturing Association will be keeping an eye on developments and report to TMA members via the TMA News Bulletin how this statewide effort may affect their businesses and bottom lines in the days to come.

WORKFORCE DEVELOPMENT

SOUTH ELGIN PLACES IN NATIONWIDE MACHINING COMPETITION

South Elgin High School students won second place in the Philips Corporation nationwide competition with the funding help of TMA's Education Foundation. The instructor, Russell Bartz, helped his class's "shift lever" place in between two community colleges winning first and third.





TMA OP/ED

CONTRARY TO POPULAR BELIEF, MANUFACTURING IS **BOOMING**



By NICOLE WOLTER President & CEO HM Manufacturing, Inc.

Rumors of the death of U.S. manufacturing have been greatly exaggerated.

Everyone from Sen. Bernie Sanders to Tucker Carlson laments the supposed demise of

U.S. manufacturing. "Manufacturing ... all but disappeared over the course of a generation," said Carlson as a premise of his viral monologue recently on his Fox News program.

Not so. In fact, manufacturing is booming in the United States. The latest Labor Department jobs numbers show that 32,000 manufacturing jobs were created in December -- the biggest monthly increase in 2018. Over the entire year, 284,000 new manufacturing jobs were created, the most since 1997. And over the last two years, nearly half a million have been created.

Contrast this to 2016, when the number of national manufacturing jobs actually declined. With every manufacturing job supporting 3.6 American jobs, this manufacturing boom is partially responsible for today's strong labor market, including an unemployment rate that is hovering near a half-century low.

This manufacturing job growth is driven by strong manufacturing performance. The manufacturing Purchasing Managers' Index, which surveys senior executives about production metrics such as new orders, remains well above 50, signaling manufacturing improvement. And private nonresidential fixed investment, a proxy for manufacturing health, has jumped by about \$350 billion over the last two vears. Manufacturing output is nearly double what it was during the supposed manufacturing heyday of the 1980s, with production jumping significantly over the last two years.

I can speak firsthand about this manufacturing boom as the president and CEO of HM Manufacturing, a power transmission component producer based outside of Chicago. We have recently purchased three machines valued at over \$400,000, hired two new machinists to operate them, and are looking to hire one more. Due to the increased demand for American made manufacturing, we have also generally

increased our workforce and its capabilities.

What's driving this manufacturing boom? Company reinvestment in fields like additive manufacturing (3-D printing), automation and research and development have made the field more competitive and productive.

Additive manufacturing allows companies to rapidly and flexibly innovate, experimenting with new designs in real time. Meanwhile, real private nonresidential research and development spending has significantly increased, jumping \$28 billion -- or 7 percent -- between the third guarters of 2017 and 2018, one of the biggest 12 month increases in the last decade.

The tax cuts that took effect last year are helping fuel this reinvestment. One largely overlooked tax cut provision that is especially helping manufacturing businesses like mine is the new 20 percent small business tax deduction. This tax cut allows small businesses to protect one fifth of their earnings, which can then be directed toward expansion, research, upgrades and hiring. Yet the deduction phases out at \$315,000 of earnings for service businesses. While for manufacturers, it is limited to 50 percent of payroll, with no earnings limit, making it far more valuable to us.

We've used these tax cut savings to reinvest in our business and employees, raising wages, bonuses, and benefits -- to the point that we pay for 100 percent of employee health care premiums. We've also used them to pay for employee training, education and apprenticeship programs. These apprentice programs have allowed several employees to advance from entry-level positions all the way up to seniorlevel programmers.

These investments aren't purely altruistic. In today's competitive environment, keeping and developing skilled employees is one of management's most important priorities. The biggest challenge facing businesses today, according to several surveys, is finding qualified employees. Nearly half of businesses cannot find the workforce talent they need. That number jumps to about three-quarters for the skilled trades.

Contrary to the popular belief that manufacturing is slowing down and automation is putting people out of work, the opposite is true. Manufacturing is booming and creating jobs. In fact there are half a million unfilled manufacturing jobs in the country that employers like me simply cannot fill, according to the Labor Department.

Tax cut-induced wage increases and skills training programs like the ones we're offering should help fill these jobs and boost manufacturing even further. Just don't expect this to change the preconceptions of politicians and commentators.

Nicole Wolter is the president and CEO of HM Manufacturing. member of TMA's Board of Directors and a member of the Job Creators Network.

First published in the Daily Herald.

MEET THE TMA STAFF



JUSTYNA **BERNAS** ACCOUNT MANAGER

Justyna Bernas started at TMA in 2016. She is an Account Manager with TMA Health Solutions, where she assists member clients with their health insurance needs.

Justyna answered a few get-acquainted questions for TMA News Bulletin:

Q: If you could have only one superpower, what would it be?

A: Mind reading - so I can always be one step ahead

Q: What was your favorite TV show when growing up?

A: "Boy Meets World"

Q: What hidden talent do you have that most people at TMA don't know you have?

A: I used to dance Hip-Hop and was pretty good at it.

Q: When did you accept a dare that you later regretted?

A: This question wouldn't apply, since I don't ever regret my decisions. blush..

Q: What's your favorite task at TMA?

A: Problem solving, being able to make tasks easier for our clients. I also enjoy being able to help translating for our bilingual clients (I am fluent in Polish).

Contact Justyna at: jbernas@tmaillinois.org



tma | events

February 20

Manufacturers' Breakfast -**Rockford**

TMA is hosting an informal manufacturers' breakfast event designed to build and strengthen the manufacturing community in the Rockford area. Please join us and welcome Dallas Rodiek from The Daniel and Henry Co. Dallas will discuss property and casualty insurance products. He will also address the alternate employer endorsement when using temp services. Free to attend. Manufacturers only please.

TIME: 7:00am - 8:30am

LOCATION: Rockford, IL

February 21

COST: Free

Manufacturers' Breakfast -**Tinley Park**

TMA has formed a breakfast group for manufacturing companies in the south suburban area. Please join us and welcome our quest speaker, Dallas Rodiek, from The Daniel and Henry Co. Dallas will be discussing property casualty insurance products. He will also address the alternate employer endorsement when using temp services. Free to attend | Manufacturers only, please We encourage you to invite a manufacturing company that is not yet a TMA member - perhaps a friend or neighbor.

TIME: 7:00am - 8:30am

COST: Free

LOCATION: Tinley Park, IL

February 21

Sales & Marketing Peer Group

Join your peers to discuss challenges and strategies of sales and marketing in the manufacturing environment. Free to all manufacturing members. Lunch is provided.

TIME: 11:30am - 1:30pm

COST: Free

LOCATION: Oak Brook, IL



February 28

TMA Annual Meeting

Join us for the 2019 Annual Meeting of the Technology & Manufacturing Association. At this meeting we'll review the audited statements of the Association, elect new members to the TMA Board of Directors, and install the new TMA Officers. The meeting will be followed by a light lunch.

TIME: 12:00pm - 2:00pm

COST: Free

LOCATION: Schaumburg, IL

March 2

TMA Annual Dinner

The Technology & Manufacturing Association invites you to the 93rd Annual Dinner at the Hyatt Regency in Rosemont, Illinois. Don't miss this incredible event.

TIME: 6:00pm - 12:00am

COST: \$185/ind. | \$1,800 for table of 10

LOCATION: Rosemont, IL

March 12

IT Peer Group

5 ways to prevent getting hacked and losing data, money, or worse. Come and join your fellow TMA members & learn more about security protocols and the importance of them for your company. Free to all members. Lunch provided.

TIME: 11:30am - 1:30pm

COST: Free

LOCATION: Crystal Lake, IL



ADVERTISE IN THE TMA NEWS BULLETIN

For information, contact Maxine Difino at 847.825.1120 or mjd@tmaillinois.org



March 14

Lunch & Tour | FANUC

Join TMA and FANUC America for a unique opportunity to tour the 175,000 square foot FANUC CNC headquarters. Learn about the latest in manufacturing automation including, robotics, CNC technology, IoT and FANUC's world-class aftermarket service and support. Experience more than 15 robotic demonstrations and guided tours.

TIME: 11:30am - 1:30pm

COST: \$35

LOCATION: Hoffman Estates, IL

April 17

Owner's Dinner

Exclusively for Owners, Presidents & Company Executives of our Manufacturing Members. Discuss the current business climate, share stories and swap strategies at an exclusive venue in the Chicagoland area. Includes full dinner.

TIME: 5:30pm - 8:00pm

COST: \$85

LOCATION: Harwood Heights, IL



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WORKFORCE DEVELOPMENT

THIRD RIDGEWOOD **HIGH SCHOOL CLASS COMPLETES BASIC CNC TRAINING**

The third consecutive class from Ridgewood High School completed basic CNC training at TMA in late January at TMA's Training & Education Center.

Their TMA instructor Paul Newman presented each of the six students with a TMA Introductory CNC Training Level 1 Completion diploma and NIMS CNC Basic Machining certification.

Ridgewood High students began coming to TMA for training in 2018. They spend two mornings a week learning basic CNC machining skills at TMA's training center. Their training makes them prime candidates for internships at area manufacturers, and several Ridgewood students proceeded on to advanced career skills after taking TMA classes.

Several local manufacturers actively advise the high school

as to beneficial courses and training that would prepare Ridgewood High students for technology and manufacturing careers.

TMA Vice-President of Education & Training Patrick Osbourne was on hand to congratulate the students, and TMA Member company C & L Supreme in Des Plaines, IL sent Operations Manager Gary O'Gradney to talk about the career opportunities the students would have at their company.

The Ridgewood class graduates are Wendy Moldanado, James Foster, Nicholas Mikrut, Michael Pipitone, Shawn Aguilar, and Zachary Rodifer.





WORKFORCE DEVELOPMENT

TMA MEMBER **CHALLENGES** ST. CHARLES NORTH H.S. STUDENTS WITH SOLUTIONS **COMPETITION**

Experts have found that one of the most effective ways to interest youngsters in technology and manufacturing is to present them with real time problems for which they can offer practical solutions.

With this idea in mind, Geneva manufacturer Smith & Richardson challenged St. Charles North High School's "Project Lead the Way" class to find a solution to a problem their shop team was facing.

The challenge? Smith and Richardson Inc. asked the vocational ed students to design and build a measurement gage holder system that would protect the company's allimportant gages from damage caused by constant oil exposure. Among other explicit directions, they asked the proposed design to accommodate a variety of tool types and sizes and be convenient at each work station.

The St. Charles North students worked for several weeks on the projects, supervised by their engineering instructor Marsha Brown. In December, Zachary McDonald, Quality Engineer, and Ron Brown, Director of Education and Training from Smith & Richardson, judged the students' presentations.

Twenty teams from St. Charles North participated in the competition. McDonald and Brown picked the top three winning teams based on their projects' designs, material and manufacturing processes, prototype modeling solutions, and the team members' abilities to answer judges' questions. In addition to a full scale 3-D model, each team submitted an Autodesk Inventor three-dimensional rendered model with the corresponding fully-dimensioned working drawing.

All three finalist teams received awards and gift certificates to aid in pursuing engineering careers. The winners were:

- 1st Place: Ashley Czerniak and Bridget Theile
- 2nd Place: Payton Kuligowski and Carmine Bastone
- 3rd Place: Jaden Del Rosario and Erik Andersen











TECHNOLOGY & MANUFACTURING ASSOCIATION

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