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Exploring Manufacturing in Wisconsin

FALL 2025

DWD Awards Nearly $1 Million in Equipment Grants to 19 School Districts

The Wisconsin Department of Workforce Development (DWD) has awarded $998,114 in Wisconsin Fast Forward grants to 19 school districts throughout the state. The Advanced Manufacturing Technical Education Equipment grants will benefit 4,223 students and help address the state's skilled workforce shortage by supporting schools as they prepare students for quality jobs.

School districts will use the funding to expand career pathway options by upgrading technical education training equipment and facilities. Projects include modernizing and constructing welding labs, acquiring bioengineering equipment, and launching robotics programs.

These grants may also reduce higher education costs for families through dual enrollment credits, industry-endorsed certificates, and technical endorsements on high school diplomas.

The current round of Wisconsin Fast Forward grants from DWD totals $998,114 and will support the following projects:

Elk Mound students examining new equipment. *(See Page 18)*

Alma School District, Buffalo County ▶ $10,197

Funds will be used to purchase cardboard inventor kits and tools, vinyl cutters, 3D printers, industrial printers, and mobile workstations to enhance the Science, Technology, Engineering, and Mathematics (STEM) and Career and Technical Education (CTE) programs. In addition, the district will construct a fabrication laboratory for hands-on learning in engineering and manufacturing.

Augusta School District, Eau Claire County ▶ $6,000

The grant will be used to purchase a robotic Neuromaker Hand 2.0 and Bio-Sensor Pack to draw additional students into the technical education programs and expose students to biotechnology and engineering.

Campbellsport School District, Fond du Lac County ▶ $100,000

(See Page 15)

Funds will be used to purchase a Fuji Automatic Numerical Control (FANUC) Certified Industrial Robot Training Lab, which will enhance the district's manufacturing curriculum by providing students with hands-on experience using industrial robots and prepare them for the technical demands of the workforce.

Durand-Arkansaw School District, Pepin County ▶ $100,000

The grant will be used to purchase a modular robotic welding system built with industrial-grade FANUC and Miller Welding technology to prepare students for high-demand careers in advanced manufacturing.

*Elk Mound Area School District, Dunn County ▶ $100,000

(See Page 18)

The district will use grants funds to purchase Amatrol Industry 4.0 Course 1 Learning Systems and FANUC Fenceless ER-4iA CERT package. The project will prepare students with the necessary skills for the fields of automation, robotics, and advanced manufacturing.

Franklin Public School District, Milwaukee County ▶ $36,148

Funds will be used to purchase a Computer Numerical Control (CNC) Router, providing students with hands-on experience with manufacturing technology.

*Lake Mills Area School District, Jefferson County ▶ $5,195

(See Page 6)

Funds will be used to purchase three Miller Multimatic 220 Welders to support multiple welding processes and enhance the district's metals manufacturing facility to meet current industry standards.

Lena Public School District, Oconto County ▶ $7,625

The district will use grants funds to purchase a Scotchman 50514-EC Ironworker and an Ellis Bandsaw to replace outdated metal fabrication machinery. The equipment will help students become proficient in advanced manufacturing technical competencies and prepare them for in-demand metal fabrication and machine tool careers.

Milwaukee Public Schools, Milwaukee County ▶ $20,909

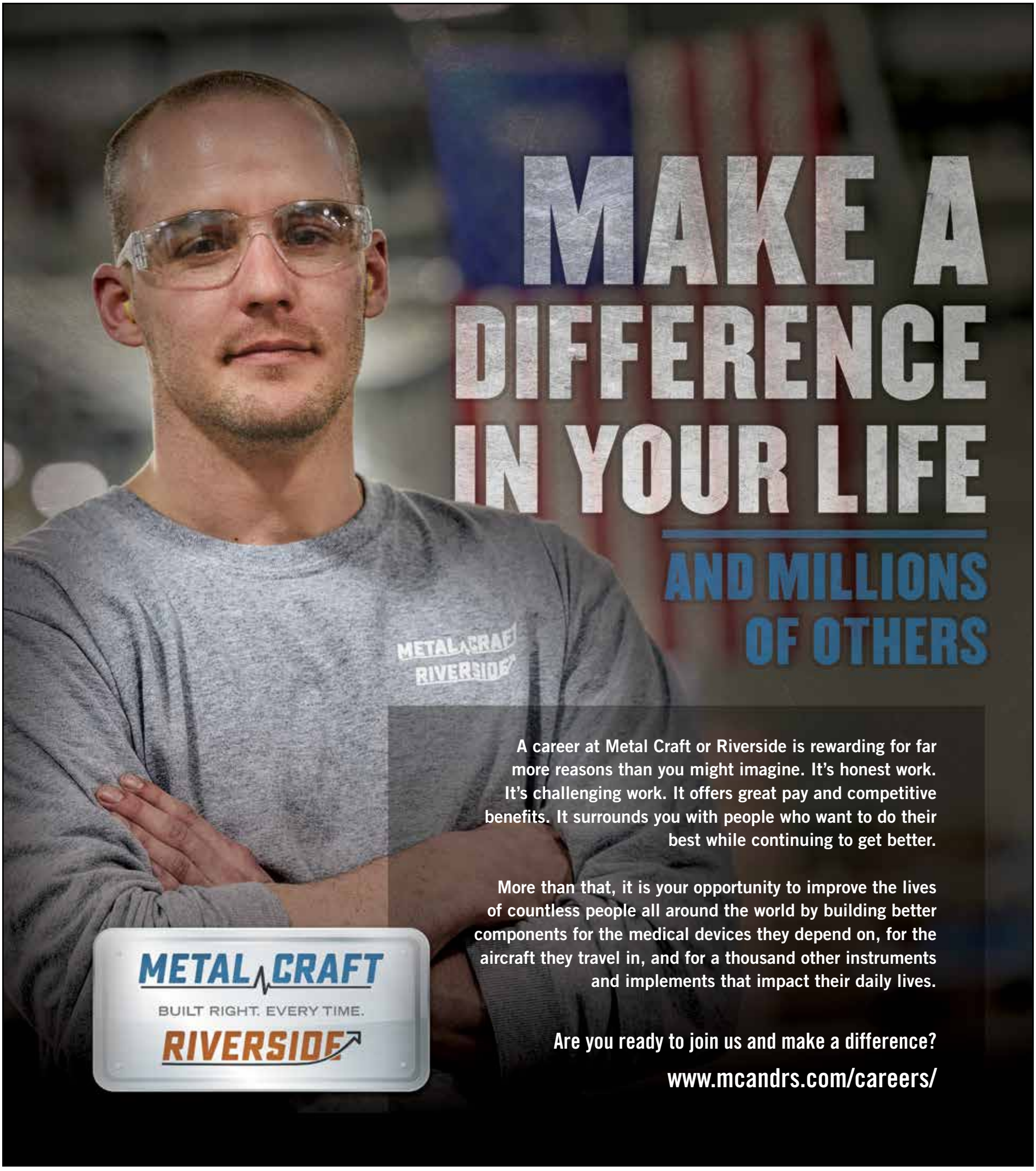
Funds will be used to purchase a Wazer Pro Waterjet CNC machine and a MO-240 VersaObject UV Flatbed Printer, which will enhance the school's ability to deliver cutting-edge, industry-relevant technical education. Students will be able to develop fully customized projects and gain hands-on experience.

*Mosinee School District, Marathon County ▶ $100,000

(See Page 6)

This grant will be used to purchase a Miller MobileArc 5-Pak Welding System, Miller AugmentedArc Welding System, and FANUC Fenceless Certified Education

Continued on Page 8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IN THIS ISSUE OF MANUFACTURING TODAY WI™

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Providing a Pipeline to Jobs and Career Choices at Beloit Schools

This is part of a larger article produced by The Hechinger Report, a nonprofit, nonpartisan news outlet focused on education. To access the full article go to https://hechingerreport.org/this-school-built-high-end-training-sites-on-campus-to-prepare-students-for-local-skilled-jobs

By Wayne D'Orio

Manufacturing and construction dominate the business needs inside Beloit, a small city of 36,000 just minutes from the Illinois border. Sitting at the nexus of two major highways, and within 100 miles of Chicago, Milwaukee and Madison, Beloit is home to a range of businesses.

Staffing these companies into the future is a major concern, so when Beloit decided to revamp its public high school in 2018, CTE and work-based learning were at the forefront of the transformation.

The 1,225-student school now has three academies that cover 13 different career paths. After ninth grade, students choose to concentrate in an area, which means taking several courses in a specific field. Students also have the option to do work-based learning, which can mean internships, a youth apprenticeship or working at high-end simulated job sites inside the school.

"This creates not just a pipeline to jobs but also to career choices," said Jeff Stenroos, the district's director of CTE and alternative education.

The high school features a cavernous construction area where students build full-scale rooms, learn masonry and complete plumbing and electrical wiring projects. The metal shop offers 16 welding stations and a die-cutter machine that allows students to create customized pieces to fit projects. Down the street, the school runs an eight-bay car repair center, a space it took over when a Sears autobody shop left town.

Our students have been upgrading all 18 welding lab booths by designing and manufacturing brand-new welding tool holders right in the shop! Using CAD software and the press brake, they've taken the lead on improving their own learning spaces. This hands-on project is a great example of students applying real-world skills and leaving their mark on the classroom.

Our PACMES Academy students had an incredible time participating in Junkyard Wars hosted by Blackhawk Technical College! A huge thank you to BTC for organizing such a fun and engaging event that challenges students to problem-solve, create, and collaborate. We also want to give a special shoutout to all the sponsors who made this experience possible for our students — your support makes a difference!

In addition to their high school courses, Beloit Memorial students pile up industry-recognized certifications, Stenroos said. More than 40 percent of its students graduate with at least one certification, and 1 in 4 of them has multiple certifications.

While some simple certifications, such as OSHA Workplace Safety, can be accomplished in just 10 hours, others, such as those for the American Welding Society, require up to 500 hours of student work, he added. The state has called for 9 percent of graduating high school students to have earned at least one certification by next year. To incentivize schools to offer these opportunities, the state's Department of Workforce Development pays schools for each student who earns a certification; in 2024, Beloit received $85,000 through this program, Stenroos said.

Over in the welding room, rising senior Cole Mellom was putting the finishing touches on a smoker he built in less than a month's time. He said he loved the creativity of finding a plan, cutting the metal and building something that he could sell, all while in school. Plus, he knows that welding is a key skill needed for his dream job, race-car fabrication.

In the past, students created a custom-made protective plate that the city's police use on a bomb squad vehicle.

The welding program has 125 students this year and had to turn away 65 more because of space limitations, Stenroos said; last year, 17 of the school's welding academy graduates enlisted in the armed forces to specialize in welding.

> "The 1,225-student school now has three academies that cover 13 different career paths. After ninth grade, students choose to concentrate in an area, which means taking several courses in a specific field. Students also have the option to do work-based learning, which can mean internships, a youth apprenticeship or working at high-end simulated job sites inside the school."

The main reason Beloit Memorial has been able to zoom past state and national goals for both CTE and work-based learning is the school's single-minded focus since 2018 on helping to ensure that its graduates will understand what businesses need and giving them a head start toward gaining those skills.

High school officials actually pared back the program from 44 pathways to 13, Stenroos said, part of an effort to tie each pathway to specific jobs. About 75 percent of pathways target area jobs, with the remaining quarter highlighting prominent professions within the state, he added.

Each of the three academies has an advisory board of teachers and industry professionals who work out how to embed practical lessons in classroom curriculum. "We ask business people, 'What do you need, and how can we help our kids get there?'" said Stenroos.

The connection to area businesses goes beyond the school's leaders. Each year, about 10 teachers complete an externship in which they spend one week of their summer at a local business. Teachers are paid $1,000 for the 20 hours, and they not only learn about what jobs a company may have but also find ways to incorporate real-world problems into their classroom lessons.

Rik Thomas, a rising senior who already has his own business repairing and modifying cars, said this work has definitely made him more interested in school. While he thought the academy would merely explain what a construction career might include, "It's nice to find out how to do the work." His father works in construction and, Thomas added, "He loves that I take this program."

Thomas and his classmates built a wooden shed earlier this year and were able to sell it for $2,500, with the money going to pay for more materials. Likewise, the first smoker created in the welding class was bought by Stenroos; the students are looking forward to posting the second one for sale after they determine how much they should charge.

While the school's construction and other trade-related fields have drawn the most attention, its three academies also offer career paths in healthcare, education, business, the arts, hospitality and more.

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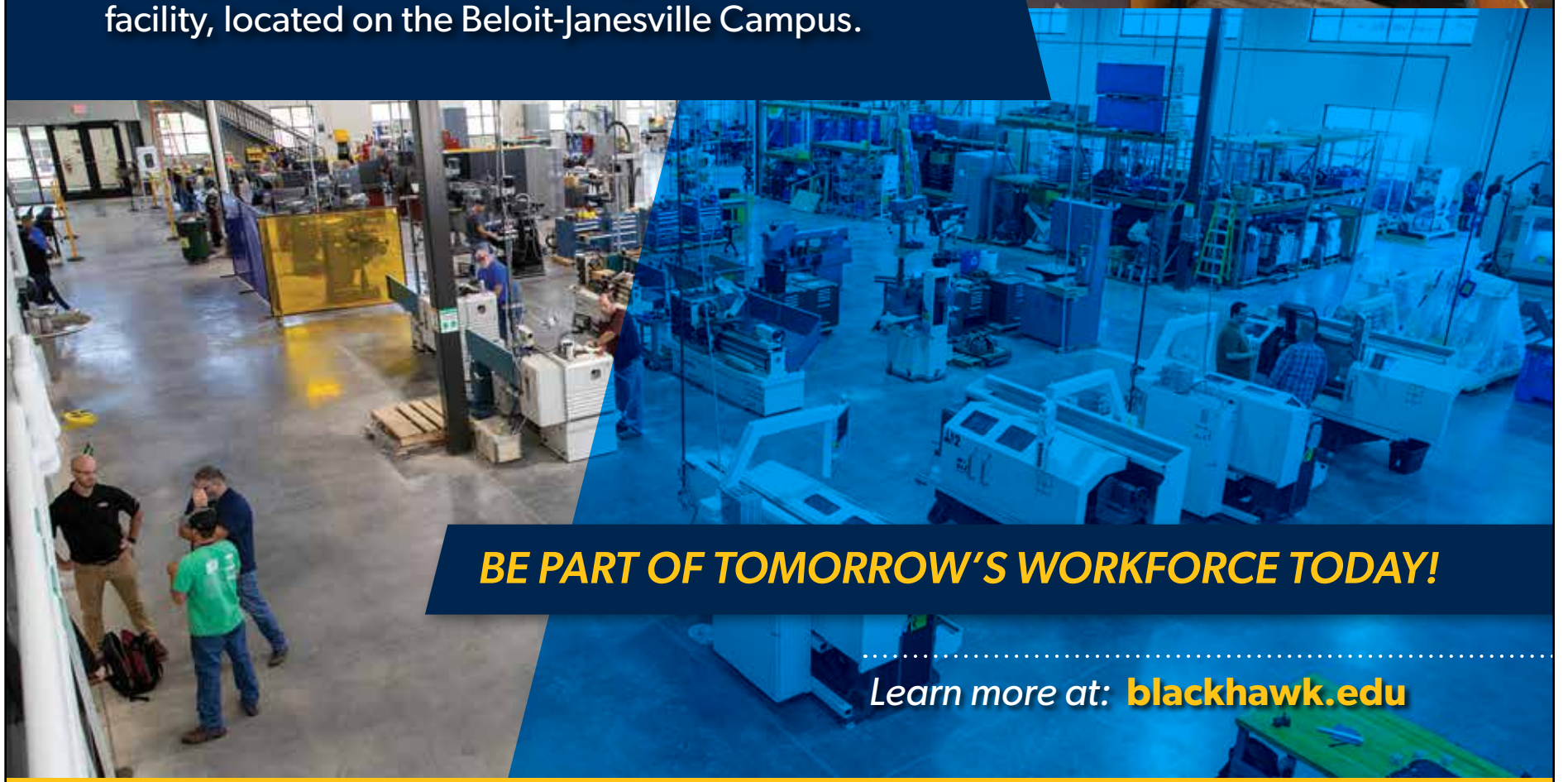

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Investing in the Future of Welding at Lake Mills High School

The first metals class with the new equipment

Jeff Lehr, Technology Education Teacher
Lake Mills Area School District

Lake Mills High School is proud to be the recipient of a Department of Workforce Development (DWD) Award for Advanced Manufacturing Technical Education Equipment. Thanks to this $5,100 grant, generous local industry donations, and district support, the school's welding program is entering a new era of hands-on learning and career readiness for students.

Lake Mills High School purchased four Miller Multimatic 220 multiprocess welders, four tank carts, and upgraded the electrical infrastructure in the school's welding booths. The update replaces welders that dated back as far as 1965, bringing the shop from single-process equipment to modern, versatile machines capable of multiple processes. The result is a more flexible and efficient welding space where every booth can be used for multiple types of welding, maximizing the school's limited space while expanding student opportunities.

One of the biggest impacts of this upgrade is the addition of a dual credit Gas Metal Arc Welding course within the Metals Manufacturing II class. Students who complete the course now earn two college credits through a nearby technical college, giving them an early start toward their welding diploma. This not only prepares students for advanced manufacturing careers but also supports local industry partners who are eager to hire skilled graduates.

The project would not have been possible without the collaboration of local employers who understand the importance of strong technical education programs. In addition to the DWD grant, the school received $6,750 from local businesses. Together with district funds, these contributions allowed Lake Mills to transform its welding program into a modern training space that mirrors the needs of today's workforce.

Students are working on equipment that reflects what they will see in industry. They're gaining real-world experience, earning college credit, and building skills that will serve them well after graduation. The support from the Department of Workforce Development and our industry partners shows that they believe in investing in the next generation of skilled workers.

Lake Mills High School's investment in advanced welding aligns closely with Wisconsin's statewide focus on career readiness and workforce development. With manufacturing serving as a cornerstone of the state's economy, programs like this play a critical role in ensuring that students are not only prepared for future careers but are also inspired to pursue them.

The school plans to continue partnering with the Department of Workforce Development in the future as new grant opportunities arise and matching funds become available. By doing so, Lake Mills aims to stay at the forefront of technical education and ensure that students remain competitive in a rapidly changing workforce.

As the welding sparks fly in the newly equipped booths, one thing is clear: Lake Mills High School is not just teaching students to weld—it is forging stronger connections between education, industry, and the future of Wisconsin manufacturing.

lakemills.k12.wi.us

Mosinee School District Awarded $100,000 Fast Forward Grant to Expand Advanced Manufacturing and Engineering Opportunities

Mosinee School District

The Mosinee School District is proud and grateful to announce that it has been selected as a recipient of the Wisconsin Department of Workforce Development's Fast Forward Grant. DWD awarded $100,000 for the district's proposal to expand Advanced Manufacturing and Engineering opportunities, accelerating the progress already underway.

At the heart of the Mosinee School District is a vision for graduates shaped by four foundational pillars: Student-Centered and Inspirational, Community Impact Focused, Vision and Legacy Driven, and Partnership and Gratitude Emphasis. This award reflects and strengthens each of those pillars, ensuring students are prepared to succeed both in their own lives and in the broader community.

"This award ensures that our students will gain real-world skills on the same technology driving today's industries. It's an investment that strengthens both our graduates and the future of our community," said Greg Doverspike, Superintendent.

Through this grant, the district will acquire several pieces of cutting-edge equipment:

- A Miller Mobile Arc 5-Pak Welding System
- A Miller AugmentedArc Welding System
- A FANUC Fenceless Certified Education Training Package with a material-handling training arm
- A 3D area scanner

These tools will give Mosinee students hands-on learning experiences with the same advanced technologies used in today's top industries. By working with this equipment, graduates will be College and Career Ready at an industry standard, gaining an advantage as they pursue higher education, apprenticeships, or immediate employment.

"This grant represents an incredible investment in our students' futures. With access to cutting-edge technology, Mosinee students will graduate not only prepared for college and career, but ready to lead in tomorrow's workforce," said Thomas McCarty, Director of Innovation and Strategic Growth.

The impact of this investment will be felt long after the equipment is installed.

"For years to come, students in Mosinee will have opportunities that spark innovation, build confidence, and open doors to high-demand careers. This grant is helping us shape a brighter future—one student at a time," added McCarty.

The district is deeply appreciative of and extends its gratitude to its many partners who made this possible.

"This achievement was only possible through the partnership of our community and industry leaders. Together, we are equipping students with the skills to thrive and ensuring Mosinee remains a place where education and opportunity go hand in hand," said Superintendent Doverspike.

With this investment, Mosinee is preparing students to explore, innovate, and thrive in high-demand fields while strengthening the region's economic future. Together, the community and schools are building a brighter tomorrow for Mosinee students—and for generations to come.

mosineeschools.org

New Technology Education Center in Progress at Shiocton

Shiocton School District

In April of 2025, the voters of Shiocton School District approved a capital referendum of which a major component is to renovate and build a new Technology Education center.

This referendum includes expanding the high school's technology education space to support on-going needs in project-based courses. The expansion will more than double the current size of the manufacturing area, providing updated space for students to work and learn. The new construction includes additions to the woods, manufacturing, and automotive labs, firewall construction, fire protection, plumbing, HVAC, and electrical improvements.

The manufacturing addition and construction remodel, more than one third of the overall project, will house the equipment provided by the Fast Forward grant and includes the mechanicals to make sure the equipment and facilities will meet the needs of the district for years to come.

The new center will increase accessibility for students and provide dynamic space for practical and hands-on learning with cutting-edge, industry-standard equipment, which is key to the success of this project.

As our manufacturing and construction program begins to integrate new equipment and technology into our programs, additional curricula will be incorporated into our courses. Our metals courses will have mandatory tasks that require them to demonstrate proficiency in several areas. Our business partners, along with the local technical college, have repeatedly stated that pulse welding is the future of manufacturing due to the rapid deposition rates that are required from the process. We are currently working with the instructors at the college to learn the curriculum and begin to apply it in real applications. Our business partners have requested that we work with them to align our methods with them and the college to send a consistent message. This is a steppingstone towards our students becoming proficient at welding. The future plan is to begin teaching the college's Gas Metal Arc Welding I (GMAWI) curriculum in our Metals III class. Currently, we do not have the equipment to meet the requirements of this course but upon completion of the new Technology Education center it should be reachable.

The school and program will finally have the proper facilities and equipment configuration to educate the students well into the future. New welders, worktables, and welding booths are a big piece of the matching funds coming from the grant. The awarded grant money will be used to introduce a new mill and lathe into the program. The Track vertical mill is a step forward in the machining world that brings our school closer to CNC machining with a new mill that the college has piloted and is using in a move towards automated machining. Students will be able to perform conversational machining on the mill while being able to perform manual machining as well. The new Clausing lathe is a next generation lathe that has expands our current equipment with several new features. The infinitely variable speed control is something that makes it a desirable piece of equipment. Without this grant, this equipment would not have been possible to purchase for the students in Shiocton.

shiocton.k12.wi.us

Portage High School Awarded Fast Forward Grants to Launch ACE Academy

Portage Community School District

Portage High School (PHS) is proud to announce it has been awarded two Wisconsin Fast Forward Advanced Manufacturing Technical Education Equipment Grants from the Department of Workforce Development (DWD). These competitive awards, each for $100,000, were made possible through support from the Portage Community School District and AGC of Wisconsin. Together, they provided matching funds that will transform technical education opportunities at PHS.

The funding will be used to purchase state-of-the-art equipment and install an air quality filtration system that protects both students and instructors in **construction, welding**, and **manufacturing spaces**. These improvements will ensure that PHS students train in a safe, modern environment that mirrors today's industry standards.

The grants arrive as Portage High School continues its Capital Campaign to build a new **ACE Academy (Architecture, Construction, and Engineering Academy)** facility. The new space will house cutting-edge labs, industry-aligned equipment, and expanded programming designed to prepare students for the high-demand careers shaping Wisconsin's economy.

"Receiving these two grants is a game-changer for our students," said Dr. Jennifer Jones Garrigan, Principal of Portage High School. "Not only will we be able to invest in advanced equipment, but the addition of a modern air quality system ensures that safety is a top priority. This is a critical step forward as we work to make the ACE Academy a regional hub for hands-on, career-focused learning."

Benefits for Students and the Community

The impact of these grants extends well beyond the walls of PHS. With updated equipment and safe, modern labs, students will gain hands-on skills in construction, welding, and machining that prepare them for immediate employment or further technical education. Certifications earned through the ACE Academy, paired with dual-credit partnerships with a nearby college, provide students with a head start toward careers in advanced manufacturing, engineering, and construction.

For many students, this means leaving high school not only with a diploma but also with industry-recognized credentials and practical experience that make them highly employable. Local businesses and industry partners also benefit, as PHS graduates enter the workforce with strong technical foundations and problem-solving abilities.

"This is about more than new machines," said Garrigan. "It's about creating opportunities for students to see themselves in these careers, to gain confidence in their skills, and to fill critical workforce needs across our state."

Strengthening Current Programs

The grants directly enhance existing career and technical education programming at PHS. Students enrolled in construction, engineering, manufacturing, and automotive pathways will immediately benefit from upgraded lab spaces and safety systems. These updates also support the ACE Academy's long-term vision: providing an integrated, hands-on learning environment where students in construction, design, and manufacturing courses collaborate on large-scale builds that reflect real industry workflows.

By strengthening both the technical and safety infrastructure of its labs, PHS ensures that students develop the workplace readiness skills and professional habits that employers seek, while also fostering teamwork, communication, and problem-solving skills that extend far beyond the classroom.

Looking Ahead

The Fast Forward Grants, together with community and industry support, represent a pivotal moment for PHS and the Portage community. With its Capital Campaign underway, the ACE Academy continues to build strong partnerships with local leaders and businesses who recognize the importance of investing in future talent.

"These grants affirm the value of our vision for the ACE Academy," Garrigan said. "We are deeply grateful to DWD, PCSD, and AGC of Wisconsin for their support, and excited to share the success of our students with communities across Wisconsin."

As new equipment and safety systems are integrated into classrooms and labs this year, students at Portage High School will have more opportunities than ever before to prepare for rewarding careers in the skilled trades, ensuring that Wisconsin's workforce remains strong, innovative, and ready for the future.

www.portage.k12.wi.us

DWD Awards Nearly $1 Million in Equipment Grants Continued from Page 1

Training (CERT) Package. The equipment will strengthen the school district's technical education offerings and expand student career pathway opportunities.

*Portage Community School District, Columbia County ► $100,000

(See Page 8)

Funds will be used to upgrade equipment to current industry standards in their technical education department, preparing students for successful careers in advanced manufacturing and construction fields.

Random Lake School District, Sheboygan County ► $60,000

The district will purchase a Peel 3D Scanner, MINDS-i Electric Car and Drone Lab, and a Resin 3D Printer, which will prepare students for in-demand careers by developing both technical skills and practical understanding.

*Rosholt School District, Portage County ► $5,782

(See Page 18)

Funds will be used to purchase a Scotchman Ironworker to replace outdated machinery with industry standard equipment.

*School District of Beloit, Rock County ► $100,000

(See Page 4)

This grant will be used to purchase a Miller/FANUC Robotic Weld Cell ARC Mate 50iD/7L, which will enhance the welding program by exposing students to robotic technologies and providing hands-on, industry-level experience, with the ability to earn industry-recognized credentials.

*School District of Shiocton, Outagamie County ► $50,000

(See Page 7)

The district will use grant funding to purchase a Trak K3 Knee Mill, a precision lathe, and Miller Welders, upgrading technical education equipment to industry-standard and aligning with the local industry skill needs.

Sparta Area School District, Monroe County ► $7,499

Funds will be used to purchase a Miller-FANUC ARCMate 50iD/7L Robot Weld Cell to equip students with real-world training in industrial robotics, automation systems, and foundational metal fabrication.

Superior School District, Douglas County ► $48,000

The district will use grant funds to purchase a Powder Coating System, Haas TL-1P Toolroom Lathe, Bambu Lab Combo 3D Printers with accessories, and a fixture plate with tooling and lathe tooling to prepare students for high-demand careers in advanced manufacturing.

Union Grove School District, Racine County ► $97,810

This grant will be used to purchase a Summit Precision Lathe and milling machine to prepare students with technical skills that meet regional workforce needs.

Waupaca School District, Waupaca County ► $42,949

Funds will be used to purchase a Haas Desktop Lathe and starter kit, Haas Desktop Mill, Miller Welders, Bambu Lab X1 carbon fiber 3D printer, and a AR4-Mk3 Robot Arm Combo Kit with accessories to prepare students for careers in modern manufacturing.

Courtesy of the Department of Workforce Development

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Plymouth High School Manufacturing Program Provides Comprehensive Skill Set

This CNC Lathe was made possible by a Wisconsin Economic Development Corp. Fab Lab grant.

Plymouth School District

About 15 years ago, various stakeholders saw value in renovating the Plymouth Comprehensive High School technology education wing into the Lakeshore College-Plymouth Science & Technology Center. Thanks to that vision, PHS students are better prepared for a number of manufacturing careers.

The pioneering center opened in 2011 thanks to a partnership involving U.S. Economic Development Administration, Lakeshore College, the Plymouth School District, the City of Plymouth, and area businesses.

"The Manufacturing program at Plymouth High School aims to provide students with a comprehensive skill set to ensure success in their next step — whether entering the workforce directly, pursuing a college degree, or attending a technical college," said technology education instructor Jake Sherman. "My teaching approach is centered around preparing students so that when they have a great idea, they possess the skills and understanding of the process to bring that idea to life as a finished product."

Junior Shane Hansen said the program has opened a tremendous amount of opportunities for him. "The chance to use some of the best machines available and the knowledge and experience of the teachers have allowed me to learn what I need to get started on a career in industry."

Manufacturing courses

- Metal Welding I & Plasma Cutting: This introductory semester-long course gives students hands-on welding experience through extended practice with welding and cutting systems using various materials (transcripted with Lakeshore College).
- **Advanced Metal Welding and Fabrication:** This semester-long course helps students enhance their welding skill set with a continued focus on safety and a more in-depth look at welding skills including practice certification tests, print reading, layout work and fixturing (transcripted with Lakeshore College).
- **Manufacturing Technology I:** This introductory semester-long course allows students to explore the manufacturing industry and work on various manufacturing projects including manual machining, welding, and 3D modeling (transcripted with Lakeshore College).
- **Manufacturing Technology II:** This semester-long course provides a more in-depth look at manufacturing skill sets, including machining, welding, and other areas of manufacturing, such as 3D modeling, print reading, advanced machining, layout work and fixturing.
- **CNC Programming:** This introductory semester-long course teaches students about machine set up, machine run functions, and ultimately, how to develop and run CNC machine programs that shape and cut precision parts used in many industries.
- **Computer Integrated Manufacturing (CIM):** This yearlong Project Lead the Way course teaches students about manufacturing processes, product design, robotics, and automation, as they learn fundamental concepts of robotics used in automated manufacturing, 3D modeling, programming, CNC machine setup, and program run.

Extracurriculars

Panther Tech Club: Participants get hands-on experiences in research, design, testing, fabrication, project management, manufacturing, and business. Students showcase these talents while competing against other schools through Formula High School.

Student skill sets

- FANUC Robot Programming
- MasterCam Tool Pathing
- Inventor 3D Modeling
- Inventor Tool Pathing
- HAAS Machine Set-up and Machine Programming
- Blueprint Drawings and Dimensions

Real-world experience

We've had 19 manufacturing Youth Apprentices in the past three years and are placing graduates directly into manufacturing jobs with partnering businesses.

Next steps for the program:

- Emphasis on Electro Mechanical Maintenance
- Programmable Logic Controls

Students fine-tune welding skills in our metal fabrication training facility.

CTE at PHS

Career & Technical Education at Plymouth High School encompasses:

- Agricultural Education
- Business & Information Technology
- Family & Consumer Science
- Technology Education

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Students demonstrate Haas Mini-Mills to community members.

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Bay Link Manufacturing® Celebrates 10 Years

Green Bay Area Public School District

The Bay Link Manufacturing® program at West High School celebrated its 10 year anniversary with a visit from our Governor, state and city officials, and community partners on May 12, 2025.

Bay Link Manufacturing® instructor Andrew Belongia shared the history of the program and the impact it's had on students, as well as some large scale projects with those in attendance.

Recognizing that our future depends on creating a highly skilled workforce to sustain our vibrant community, the Green Bay Area Public School District, along with partners, developed Bay Link Manufacturing® in 2014.

Over the last 10 years, Bay Link Manufacturing has welcomed more than $200,000 in donations from community partners, and earned nearly $100,000 through the work of the students.

About Bay Link Manufacturing®

Located at West High School, Bay Link Manufacturing® is a high-precision manufacturing learning lab equipped to complete projects for local companies in the areas of industrial welding, machine fabrication, and metals.

Bay Link Manufacturing® is for students in grades 11-12, and designed as a high-end work-based learning program that will provide a strong academic foundation coupled with relevant, real-world work experience to expose students to careers in manufacturing. Students work at the school-based business to complete manufacturing-related jobs provided to us by local manufacturing companies. Students will use their skills and knowledge in the areas of machine fabrication, metal machining, blueprint reading and welding.

Interested applicants must complete an application and interview process. Students selected to participate in Bay Link Manufacturing® attend a block of time each day for an entire school year.

Required Courses (Prerequisites):

Metals I

Hands-on course designed to have students in grades 9-12 learn the various metal machining, welding, and fabrication techniques. Students will be actively engaged in projects while being prepared for work in the metal manufacturing industry. Students will develop a basic understanding of machining, arc welding, metal fabrication, and finishing.

Metals II

Designed to have students in grades 9-12 further demonstrate the skills acquired in Metals 1. Students will complete projects while preparing for work in the metal manufacturing industry. Students will demonstrate an understanding of manual machining, CNC machining, arc welding, and cutting processes.

Recommended Course:

Welding

Introduces students in grades 11-12 to the various welding, cutting, and fabricating processes related to different types of material (steel, aluminum, stainless steel). Topics covered include: safety, welding symbols, joint design, various welding positions, and testing/evaluating welds. Students will earn NWTC credit for successfully demonstrating knowledge, skills, process and understanding of surfacing welds in the flat and horizontal position, fillet, pipe to plate and groove welds on plain carbon steel.

Bay Link students can receive college credit for taking the following courses while enrolled in the program.

- ***CNC Milling and G-Code***
  Students will learn shop safety around CNC milling machines, CNC basics, Cartesian coordinate systems, CNC milling controls and preparing basic G-Code milling programs.
- ***G-Code and Computer-Aided Manufacturing***
  Students will learn basic programming with computer-aided manufacturing (CAM) software, along with G- and M-code programming of computer numerically controlled (CNC) milling and turning machines.

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Metal Technology Program Builds Skills and Futures at Marshfield High School

Jennifer L. Fredrick
Career & Technical Education Coordinator
Marshfield High School

Marshfield High School, home to 1,200 students, has seen strong and consistent enrollment in its metal technology program. Over the past three years, an average of 280 students annually, have chosen courses in this pathway, demonstrating both the program's appeal and its role in preparing students for technical careers.

The program is designed to allow steady growth as students progress through high school. Each year, students may enroll in a general metal technology class that builds on prior learning. Early courses introduce welding, machining, and sheet metal while also emphasizing broader skills such as print reading, entrepreneurship, design, and problem-solving. As they advance, students move into more specialized classes, including Welding Theory, Machining Theory, Advanced Manufacturing, and Innovative Fabrication. Several of these courses are offered as dual credit, in partnership with the local technical college, allowing students to earn both high school and college credit while building technical skills.

Hands-on projects are central to the curriculum. Fabrication and welding students design and build can crushers, automotive creeper stools, and trailers. Machining students craft dice, levels, hammers, screwdrivers, and pens, while sheet metal classes produce toolboxes, grills, and other functional products. These projects provide tangible results, showing students how classroom instruction translates into real-world applications.

Beyond the classroom, many students gain professional experience through Wisconsin's Youth Apprenticeship program. By dividing their time between school and local employers, they earn wages while applying technical skills in authentic workplace settings. These apprenticeships often lead directly to post-graduation employment or advanced training, giving students a strong head start in the workforce.

Local industry partnerships have also played a critical role in shaping and sustaining the program. Companies collaborate with the school to provide mentorship, job opportunities, and updated equipment. Recent investments have included new CNC machines, specifically a milling machine and lathe, allowing students to train on the same technology they will encounter in modern facilities. Industry representatives also visit classrooms to mentor students, share career insights, and explain workplace expectations.

The program is led by instructors Ben Will and Luke Behling, who combine technical expertise with a passion for preparing students for success. Their leadership, along with the continued support of local industry, has created a program that blends academic learning with employable skills.

Another way the department sparks interest in technical education is through Career Explorer, a Career and Technical Education (CTE) event hosted at Marshfield High School. Each year, all sixth graders in the school district and their teachers are invited to learn about future careers, explore workplace skills, and discover CTE course options. In the metal technology area, sixth graders partner with a high school student to fabricate a "nuts and bolts animal." These engaging activities introduce younger students to technical skills in a fun, hands-on way and encourage them to explore CTE coursework as they move into middle and high school.

Like many technical education programs, Marshfield's faces challenges with facilities. The current metal technology lab, built in the 1960s, is overcrowded and outdated. Recognizing the importance of updating the space, the community supported a school district referendum in fall 2024 to fund a major renovation and expansion. Construction on the new state-of-the-art facility is scheduled to begin in spring 2026, with completion targeted for 2028.

This investment represents far more than new walls and equipment. It reflects a shared commitment to preparing students for the future, supporting local industry needs, and ensuring that technical education remains a vibrant part of the high school experience. With updated facilities, expanded space, and strong community partnerships, Marshfield High School's metal technology program is well-positioned to serve students for decades to come.

marshfieldschools.org

Campbellsport School District Awarded $225,000 in Grants and Business Match to Enhance Tech Ed and Robotics Education

Jennifer L. Fredrick
Career & Technical Education Coordinator
Marshfield High School

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www.csd.k12.wi.us

Prescott's R5 Manufacturing Equips Students with Tools for Life

Prescott School District

After five years of developing its innovative curriculum, Prescott High School's technical education department is launching **R5 Manufacturing** — a student-led, student-operated program that applies the skills and knowledge gained in Tech Ed courses to serve the greater community. R5 will function much like a professional business, with students taking on roles across multiple departments, from woods and metals to Fab Lab design, marketing, and office management.

The entrepreneurial venture grew out of Fab Lab students' early success producing and selling $900 worth of metal coasters, followed by more than $4,000 in cutting boards. By the third year, a Manufacturing Enterprise course was introduced, allowing students to design, operate, and close a business each school year. Their work produced fire pits and C-tables, generating $4,600. In its fourth year, the program reached a turning point when the school invested in a $12,000 sawmill, a student-built kiln, and other equipment—paid off in just eight weeks.

"Our investment in the sawmill last year was a turning point in the program," explained technology education instructor Kyle Schmidt, who drew on his own background in logging to design this cost-saving, revenue-generating initiative. "By milling donated trees, we've saved $15,000 in lumber expenses while adding $7,000 in profit." Students now pay 50% of what they used to for a woods-based class. A goal is to reduce overall Tech Ed spending, increase educational opportunities, and have students understand the importance of paying it forward.

R5 students manage every stage of the business process. After securing jobs or projects through in-person meetings or marketing outreach, they return to the classroom or labs to design blueprints, develop cost and time estimates, and then build the product—ensuring it meets the customer's expectations.

The 11-member student team has branded the company, created a business philosophy, and already taken on nearly 90 projects for the school district and community, with many more in the pipeline. Their work ranges from simple laser-engraved glassware to full-scale facility redesigns that improve efficiency.

Junior Collin Kosmalski, a member of the R5 team who has taken Tech Ed classes since his freshman year, shared: "I've really enjoyed woodworking and will seek projects in that area. I like that I've learned skills I can use throughout my lifetime." He added that he is especially excited about R5's profit-sharing model.

Like employees in a professional business, R5 students will receive a profit-sharing check once a trimester, based on their productivity and the income they help generate. Scholarships are also available, awarded according to projects completed.

Marketing team members Makaria Haas and Talli Roth have collaborated with the student group to design R5's final logo and branding, while also building social media accounts and print materials to promote its services. "This is the perfect opportunity to gain real-world experience in this career area and discover if it's a field I want to pursue," Haas said.

Some of R5's most notable projects include SWAT breaching doors, custom accessories for the milling program, and storage solutions across the school. "These custom projects have challenged students to problem-solve and think critically. Whether they pursue trades, business, or higher education, they leave here ready to succeed." noted PHS Tech Ed instructor Logan Figueroa.

Revenue from this year will also be reinvested into the program, including the construction of a 40-by-60-foot machine shed. The new facility will not only improve storage and workflow for the mill but will also serve as a multipurpose space for students, teachers, athletics, and community programs.

The Prescott team plans to host an open house to showcase R5's services and welcomes inquiries from other schools interested in developing similar initiatives. "We believe the R5 model can benefit any district ready to give students real-world learning opportunities and support their communities," Schmidt shared.

www.prescott.k12.wi.us

Technology and Engineering Educators,

The Wisconsin Technology Education Association will be celebrating our 57th Annual Spring Convention which will run March 11–13, 2026. The theme for 2026 is "Innovation in Action." We will again be at Chula Vista Resort in Wisconsin Dells.

Our core presenters at the conference continue to be classroom practitioners. Please consider "giving something back" by sharing your ideas, activities, programs and becoming a sectional presenter at the event.

Last year the conference presenter slots filled quickly, so I would encourage you to submit your presentation information as soon as you are able.

An online presenter submission form is provided at the following link: https://www.wtea-wis.org/wordpress/be-a-presenter

If you have any questions, please feel free to contact me. See https://www.wtea-wis.org/wordpress/program-coordinator

Thank you for your time and consideration,
Steve Johnston, WTEA Program Coordinator

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Grant Provides New Equipment at Rosholt

Rosholt School District

The Rosholt School District is excited to announce the receipt of a Fast Forward Grant sponsored by the Department of Workforce Development. This grant award is for the partial payment of new equipment to be used by our technology education classes currently taught by Mr. Chad Gagas. Students will have better opportunities to learn on state-of-the-art technology while enhancing their workforce skills.

While Rosholt may not have a large industrial base of its own, our school has become a vital contributor to the regional workforce by consistently supplying neighboring communities with skilled, job-ready graduates. Interest in our manufacturing program has been steadily growing, reflecting both student enthusiasm and a broader recognition of the value of hands-on, career-focused education.

We are proud to partner with the local technical college, which enhances our students' learning experiences and creates clear pathways to post-secondary education and employment in high-demand fields. Many of our high school classes serve as dual credit courses to assist students in transitioning to the college if they so choose.

Our current metal fabrication equipment includes an old cast Edwards No. 5 Hand Shear—an antique tool estimated to have been manufactured around 1911. While it has served us for decades, it is no longer a practical or safe option as a primary cutting station for today's manufacturing classes. Its outdated design not only limits functionality but also fails to reflect the tools and technologies used in modern industry. Relying on such equipment puts our students at a disadvantage when it comes to developing the skills needed to be truly workforce-ready.

To address this gap, Rosholt School District has identified a modern ironworker machine that would significantly upgrade our capabilities. The Scotchman 50 Ton Hydraulic Ironworker includes up to five functional stations, allowing students to safely bend, notch, and punch metal using the same processes and tools they would encounter in a contemporary manufacturing environment. Introducing this machine into our program will not only enhance safety and efficiency but also provide students with valuable, hands-on experience aligned with current industry standards. Furthermore, the Scotchman Ironworker will reduce the noise level in the shop area, making the lab area that much safer.

It is estimated that four of the ten career and technical education (CTE) classes we offer will directly benefit from this equipment upgrade, significantly enriching the hands-on learning experience. With modern tools that mirror those used in the field, students will be better equipped to succeed both academically and in future employment. The school district hopes this piece of technology will last for many years to come and look forward to the knowledge that students will gain.

www.rosholt.k12.wi.us

Grant to Fund State-of-the-Art Equipment at Elk Mound

Elk Mound Area School District

The Elk Mound Area School District is proud to announce that we have been awarded a DWD Advanced Manufacturing Technical Education Equipment Grant. This recognition highlights our ongoing commitment to expanding educational opportunities for students and preparing them with the skills needed to thrive in today's rapidly changing workforce.

This achievement would not have been possible without the support and collaboration of our community and industry partners. Local businesses, along with insights gained from visits to the local technical college, have provided invaluable guidance in shaping the direction of our program. These partnerships gave us a clearer understanding of the knowledge and skills employers need most, helping us identify key areas of growth in robotics, automation, and advanced manufacturing.

The grant funding will allow Elk Mound to purchase state-of-the-art equipment that brings real-world technology directly into the classroom. Students will gain hands-on learning experiences in robotics programming, automation systems, and advanced manufacturing processes—skills that are increasingly in demand across industries. This practical, applied approach ensures that learning goes beyond theory and provides students with a direct connection to future career pathways.

In addition to enhancing technical skills, the program will also help broaden student awareness of the wide variety of career opportunities available in the manufacturing sector. Many students are unfamiliar with the high-tech, innovative roles that exist close to home,

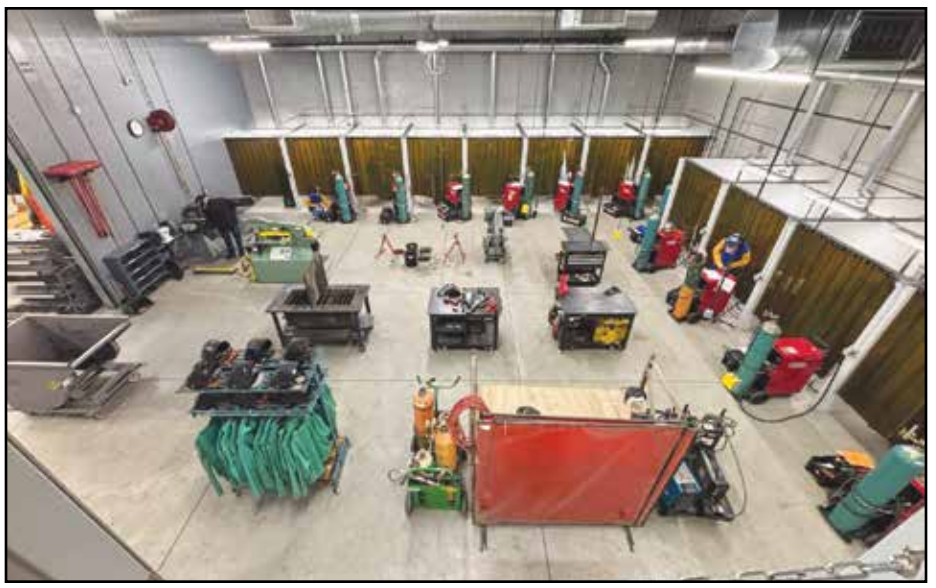
and this initiative will bridge that gap by opening doors to career exploration, industry engagement, and pathways to post-secondary training.

By strengthening the connection between education and industry, we are not only preparing students for meaningful and well-paying careers but also supporting the long-term growth of our regional workforce. This investment ensures that Elk Mound students graduate with both the confidence and the competencies to succeed in a rapidly evolving economy.

The Elk Mound Area School District is grateful to our industry partners, the technical college, and the Wisconsin Department of Workforce Development for their support. Together, we are building a foundation that empowers students, strengthens our community, and supports the future of advanced manufacturing in the Chippewa Valley and beyond.

elkmound.k12.wi.us

Osseo-Fairchild Technical Education Center: Empowering the Future of Skilled Trades and Engineering



A Hub for Technical Education and Workforce Development

Osseo-Fairchild School District

The Osseo-Fairchild Technical Education Center, which opened in 2022, has quickly become a cornerstone for technical education in the region. Situated in Osseo, Wisconsin, it serves students from Jackson, Trempealeau, Eau Claire, and Clark counties, providing hands-on training in manufacturing, construction, healthcare, engineering, and mechatronics.

The center is dedicated to bridging education and industry, ensuring that students and workers gain the technical expertise and essential skills required to thrive in high-demand careers. The center plays a pivotal role in closing the skills gap and strengthening the regional economy through partnerships with local businesses, the local technical college, and workforce development programs.

THUNDER WORKS: A Workforce Readiness Program

A defining feature of the Osseo-Fairchild Technical Education Center is its THUNDER WORKS program, which takes a comprehensive approach to technical education and essential life skills.

The THUNDER framework emphasizes:

- Teamwork
- Hard Work
- Unstoppable Determination
- Networking
- Dependability
- Engagement
- Role Model Behavior

These soft skills are essential in any career, and students integrate them into their daily work and interactions. The WORKS philosophy—Workforce, Opportunity, Relationships, Knowledge, and Solutions—ensures that graduates leave not only with technical abilities but also with the personal and professional skills that employers value.

Students in THUNDER WORKS engage with local businesses, gaining real-world experience and exposure to career opportunities in the community. The program's hands-on approach allows students to build a professional portfolio, strengthening their path toward internships, apprenticeships, and full-time employment.

Te4chnical Academies and Industry-Aligned Training

The Osseo-Fairchild Technical Education Center offers multiple career academies in partnership with the technical college, providing students with dual-credit opportunities that allow them to earn college credits and industry-recognized certifications while still in high school. These academies include:

- **Welding Academy** — Training in traditional and modern welding methods, preparing students for careers in manufacturing, construction, and automotive industries.
- **Construction Academy** — Hands-on training in residential and commercial construction, helping students develop technical and project management skills.
- **Nursing Academy** — Hosted at Mayo Clinic Health System – Oakridge, giving students an early start in healthcare careers.

We've added two FANUC CNC control simulators to our program, giving students even more opportunities to experience real-world manufacturing technology. In addition to our 3 HAAS CNC mills, students can now learn to program on FANUC controls using a switchable mill, drill, and lathe simulator—all in one system.

This new equipment was made possible through our strong partnership with the local technical college and support from the Restore Grant. We're proud to continue expanding hands-on training in high-demand skill areas and preparing students for careers in advanced manufacturing.

Future expansions will include programs in machining, engineering, robotics, mechanics, and HVAC, further enhancing career pathways.

Advanced Machining, Engineering, and Mechatronics Programs

The machining, engineering, and mechatronics programs at Osseo-Fairchild Technical Education Center are designed to meet the needs of industries relying on precision manufacturing and automation.

- **Machining Program:** Focuses on CNC programming, CAD/CAM design, and metalworking techniques, ensuring students are job-ready upon graduation.
- **Mechatronics Program:** Integrates mechanical engineering, electronics, and computer science, preparing students for careers in automation, maintenance, and robotics.

These programs provide students with cutting-edge equipment and real-world training, making them highly competitive in the modern workforce.

Industry Partnerships and Workforce Training

Beyond serving high school students, the Osseo-Fairchild Technical Education Center plays a crucial role in upskilling adults and supporting local businesses. Companies can

Continued on Page 20

The Cream of the Crop

Cardinal Manufacturing began in the Eleva-Strum School District during the 2007-2008 academic year when instructor, Craig Cegielski, approached the School Board about the potential of pursuing an in-school manufacturing business similar to one he started in his prior position in the school district of Antigo, WI.

The school board approved and since that time Cardinal Manufacturing has gone from its infant stages to a company with significant annual sales and national notoriety. The growth of the program has attracted national and international attention and Cardinal Manufacturing has attended national tradeshows and hosted celebrity guests.

Cardinal Manufacturing is a class in which students earn credits toward graduation. While the class includes some lecture and written assignments, the vast majority includes specific training and hands-on application of lessons each day. Guest speakers, demonstrations, and field trips take place during class time throughout the year. Students learn about the operations of the business through active participation.

Students must apply to be part of this program and manufacturing employees will have successfully completed both Metal Working I and II. The application process includes creating and submitting a resume, project portfolio, and a letter of recommendation.

The class consists of primarily seniors and takes place during the last two class periods of the day. All employees participate in the same class at the same time of the day. The work completed includes their job duties in the Cardinal Manufacturing business as well as classroom assignments which include research and reporting projects. Students receive grades and credits for participating in the class.

Cardinal Manufacturing has served hundreds of customers from private individuals to clients throughout the state of Wisconsin and other parts of the country. A number of students have gone directly to skilled employment positions after high school, but most choose to go on to post-secondary education through technical college or the university system.

In-school programs such as Cardinal Manufacturing serve as a grassroots economic development effort. Not only do these programs expose students to career opportunities in manufacturing and teach students soft skills for future employment, but they also work toward changing the attitudes of counselors and parents to be more open to the idea of encouraging students to look at manufacturing careers. Students get hands on opportunities to try out these roles before making an expensive decision in choosing a post-secondary program. In other words, kids get the chance to try welding, machining, construction, production management, accounting, office management, and marketing prior to committing to a major or area of study. The services provided through the program are worthwhile and valuable to the customers who pay for the service.

Over 18 years, Cardinal Manufacturing has developed a history and identity in our community, district, and with students. Our current student employees have never known school without Cardinal Manufacturing in it. This strong history has helped us build a culture of achievement and respect for the program and within the program. Students arrive each day ready to uphold high behavior standards, learn, and serve others.

Want to know how they did it? Read the book! Seriously!

DREAM BIG. HAVE FUN.
A look inside an established Student Run Business

This book is designed to give you encouragement to get started or inspiration to take the next steps to grow and enhance a student run business in your school – and it's free!

To download the book, go to https://www.cardinalmanufacturing.org/gallery/print-materials

Workshops:

Many teachers and administrators contact Cardinal Manufacturing each year to learn how to create a program like it in their districts. Workshops are scheduled based on demand and requests, so please inquire if you don't see a date that will work for you.

For more information or to register https://www.cardinalmanufacturing.org/for-schools/workshop-registration

www.cardinalmanufacturing.org

esschools.k12.wi.us

Osseo-Fairchild Technical Education Center

Continued from Page 19

use the facility for specialized training in welding, machining, automation, and safety, ensuring their workforce remains competitive.

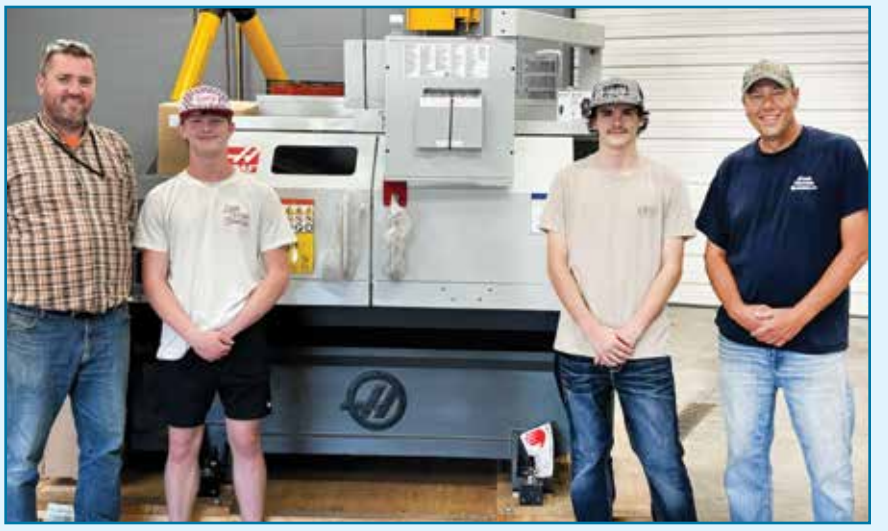
The center has already received a $1.1 million Workforce Development Grant, allowing it to invest in state-of-the-art equipment and expand training opportunities. These efforts enhance career readiness, strengthen local industries, and create a sustainable talent pipeline.

A Regional Workforce Solution

The opening of the Osseo-Fairchild Technical Education Center marks a significant milestone for the school district and regional economy. With a strong focus on industry partnerships, career readiness, and lifelong learning, the center ensures that students and workers have the skills necessary to succeed in high-demand fields.

By combining hands-on learning, technical training, and professional development, Osseo-Fairchild is helping to shape the next generation of skilled tradespeople, engineers, and technicians—ensuring a bright future for students and the local economy.

www.ofsd.k12.wi.us



The Osseo-Fairchild Technical Education Building just took another big step forward in growing our already impressive Machining Program!

Thanks to a Fast Forward Grant, written by Mr. Halvorson, and in partnership with local industry, our program has been awarded funding to purchase a CNC Lathe.

We're excited to bring this state-of-the-art machine into our curriculum, expanding opportunities for students and preparing them with hands-on skills for high-demand careers.

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Wisconsin Public School Districts Encouraged to Apply for Fab Labs Grants

The Wisconsin Economic Development Corporation (WEDC) is now accepting applications for its Fabrication Laboratories (Fab Labs) Grant Program, which provides funding to help public schools build or expand fab labs.

The grant program supports hands-on science, technology, engineering, arts and math (STEAM) education by assisting public school districts with equipment purchases for instructional and educational purposes in fab labs. Fab labs are high-tech workshops with the latest equipment, including computer-controlled manufacturing components such as 3D printers, laser engravers and computer numerical control routers.

WEDC's investment in the program puts fab labs within reach for schools that might otherwise not have the financial means to install such facilities.

WEDC will provide grants of up to $25,000 to public school districts, or up to $50,000 to consortiums of two or more districts, for the creation and/or expansion of fab labs. The minimum grant amount is $10,000.

For this year's funding cycle, applicants are being asked to match 50% of the amount of grant funds requested. For example, if a district is requesting a grant of $25,000, the district must provide a match of at least $12,500. The funds may be used to purchase equipment used for instructional and educational purposes by elementary, middle, junior high, or high school students.

WEDC is allocating $250,000 this fiscal year and anticipates awarding 10 grants. Recipients will be announced in the spring of 2026.

Fab Labs Grants will be awarded on a non-competitive first-come, first-served basis, with applicants evaluated on application completeness, evidence of readiness and long-range planning, curriculum, business and community partnerships, financial need, and previous awards.

More information on the program, including application details, can be found at wedc.org/fablabs. The deadline to apply is Jan. 15.

20 Wisconsin School Districts Awarded Fab Lab Grants in Celebration of "Fab Lab Day"

Late, last spring, the state and the Wisconsin Economic Development Corporation (WEDC), announced nearly $500,000 in grants to 20 Wisconsin school districts to train students in science, technology, engineering, arts, and mathematics (STEAM) skills and prepare them for careers using advanced technologies through establishing or expanding local fabrication laboratory (fab lab) facilities.

A total of $497,199 in Fab Lab Grants from WEDC was distributed to 20 public school districts across the state.

The following school districts were awarded Fab Lab Grants:

- Elkhorn Area School District, $25,000
- School District of Nekoosa, $24,847
- DeForest Area School District, $25,000
- Albany School District, $25,000
- School District of Belleville, $14,824
- Nicolet Union High School District, $25,000
- Joint School District 1/Benton School District, $16,936
- School District of Arcadia, $25,000
- Alma Area Schools, $25,000
- CESA 3 (consortium), $49,872
- North Crawford School District, $24,856
- Weyauwega-Fremont School District, $20,000
- Luck School District, $25,000
- Muskego-Norway Schools, $21,688
- Whitnall School District, $25,000
- Tri-County Area School District, $25,000
- School District of Monroe, $25,000
- Ellsworth Community School District, $25,000

- Westosha Central High School District, $25,000
- Pewaukee School District, $24,176

For more information on the state's Fab Labs, including resources for teachers, visit wedc.org/fablabs

Don't forget to check out the latest issue of ***Teaching Today WI™*** where we will be sharing the stories behind some of these Fab labs and more in our special STEM section! Print and digital copies will be sent to your school district and are available upon request.

https://www.teachingtodaywi.com

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