

# INDUSTRY LEADERSHIP DRIVES MANUFACTURING ADVANCEMENTS IN WISCONSIN.®



# WHY MANUFACTURERS CHOOSE WISCONSIN

Companies looking to start, relocate or expand their operations in Wisconsin benefit from the state's central location, reliable infrastructure, talented workforce and business-friendly policies—all of which create competitive advantages that help businesses capitalize upon regional, national and global market opportunities.

Wisconsin's long history of innovation continues to fuel new solutions to challenges facing people, companies, nations and our very planet, with some of the most respected companies in the world relying on Wisconsin's essential natural resources, its renowned research capabilities and the can-do spirit of its citizens to grow and succeed.

## BY THE NUMBERS

The numbers speak for themselves. Wisconsin has more than 9,400 manufacturers in the state that employ over 475,000 workers (16% of the state's total employees),<sup>1</sup> and these manufacturers produced over \$63 billion worth of output in 2018, accounting for 19% of the state's gross domestic product.<sup>2</sup>



Source: Bureau of Labor Statistics QCEW Annual 2018

## TRANSFORMING MANUFACTURING IN WISCONSIN

Building on a time-tested legacy, Wisconsin's manufacturing sector is eagerly preparing for the future by embracing advanced technologies to increase productivity, sustainability and global competitiveness at an unprecedented pace. From real-time data analytics that inform predictive maintenance to automation designed to optimize human interaction, Wisconsin understands what manufacturers need today so they can be ready for tomorrow.

Beyond data and automation, manufacturers in Wisconsin connect their systems to more efficiently anticipate supply chain needs; streamline product lifecycles with additive manufacturing; and integrate automation to improve productivity and reliability. Wisconsin's integrated, diversified and responsive supply chain delivers efficiency, quality and unmatched performance within the state and throughout the world.

Wisconsin has intentionally developed a unique ecosystem model, with industry, academia and government working together to help manufacturers stay ahead of the curve. Companies around the world are taking notice, as evidenced by their decisions to locate in Wisconsin, purchase products manufactured in Wisconsin and collaborate with Wisconsin manufacturers.

<sup>1</sup> Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Annual 2018 Employment

<sup>2</sup> Bureau of Economic Analysis

# IN GOOD COMPANY

Among the many Wisconsin-based companies contributing to the state's manufacturing leadership are some of the world's most recognized brands:

- Ariens Co.** Brillion
- Bemis Co.** Neenah
- Brady Corp.** Milwaukee
- Briggs & Stratton** Wauwatosa
- Harley-Davidson** Milwaukee
- Johnson Controls** Milwaukee
- Kimberly-Clark** Neenah
- Kohler Co.** Kohler
- Menasha Corp.** Neenah
- Mercury Marine** Fond du Lac
- Oshkosh Corp.** Oshkosh
- Plexus Corp.** Neenah
- Quad** Sussex
- Rockwell Automation** Milwaukee
- SC Johnson** Racine
- Schreiber Foods** Green Bay
- Waupaca Foundry** Waupaca

Wisconsin ranks #2 nationwide in manufacturing employment concentration. Wisconsin is the only state in the nation with four manufacturing subsectors ranked #1 in employment concentration: electrical equipment, appliance and component manufacturing; fabricated metal product manufacturing; printing and related support activities; and paper manufacturing.<sup>3</sup>

In Wisconsin, the promise of a smart factory is a reality, with our commitment to advanced manufacturing readiness initiatives that combine collaboration, investment and innovation to deliver faster systems, smarter processes and advanced operations.



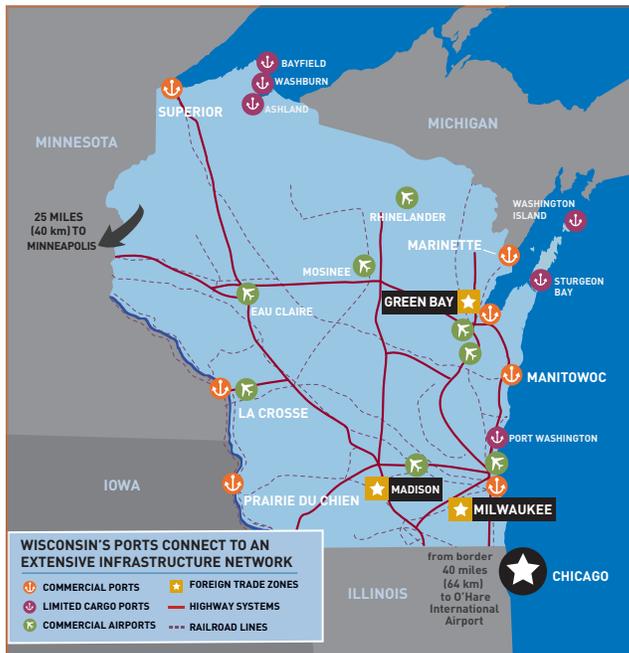
## TALENT

Wisconsin is well known for its industrious, Midwestern work ethic, and its educational system is universally admired. With a high school graduation rate consistently ranked among the top in the nation, Wisconsin has a steady pipeline of talent to keep our state at the forefront of innovation and economic growth. The University of Wisconsin System is regularly cited as a leader in terms of quality and reach, with established leadership in research and workforce development. Wisconsin's public and private universities and colleges support the partnerships, companies and policy makers throughout the state that are working to develop new, innovative products to fulfill market needs. And as the first state in the nation to develop a technical college system, Wisconsin has more than 100 years' experience training its workforce to fulfill ever-changing industry demands.

## INFRASTRUCTURE

Wisconsin's central location and robust infrastructure give companies operating in the state one-day access to major markets throughout the U.S. and beyond. Wisconsin's roads, railways and ports provide seamless, convenient access to the world's busiest multimodal transportation hub, located just 55 miles south of the state's border.

<sup>3</sup> Source: Bureau of Labor Statistics QCEW Annual 2018



## INFRASTRUCTURE IN WISCONSIN

- 09** **HIGHWAY SYSTEMS**  
State commerce and industry relies on nine major highways covering more than 11,700 miles [18,829 km] to move our goods to market. Our interstate system connects us to major industrial cities across the U.S.
- 13** **RAILROAD LINES**  
Rail traffic throughout the state continues to grow and move more than \$160 billion in freight each year, creating a seamless link in the nationwide intermodal system. Amtrak travels between Chicago and Milwaukee multiple times daily.
- 08** **COMMERCIAL AIRPORTS**  
Eight commercial airport locations serving major industrial and metropolitan areas statewide. These airports are served by all major carriers, linking to every point in the nation within one business day. In addition, these larger airports are within driving distance:  
**CHICAGO:** O'Hare is American's second largest hub, with 1068 domestic flights daily to 153 U.S. cities and more than 123 direct flights daily to 55 international destinations  
**MINNEAPOLIS:** 163 nonstop flights including 136 domestic and 27 international markets.
- 13** **COMMERCIAL PORTS**  
Uniquely situated on the nation's greatest waterways, Wisconsin ships approximately 30 million tons of product from commercial cargo ports and 6 limited cargo ports located along Lake Michigan, Lake Superior and the Mississippi River.
- 03** **FOREIGN TRADE ZONES**  
Companies located in one of our three Foreign Trade Zones (FTZs) can import merchandise (by truck, rail, air or boat) without going through formal customs entry procedures or paying import duties. These companies have the option to pay tariffs after their product inventory is sold, improving cash flow and saving money. Other benefits include, but are not limited to: global market competitiveness, minimized bureaucratic regulations, and improved supply chain efficiencies.

# RESOURCES TO HELP MANUFACTURERS TRANSFORM

The Wisconsin Center for Manufacturing and Productivity (WCMP) and its constituent organizations, the University of Wisconsin-Stout Manufacturing Outreach Center (MOC) and the Wisconsin Manufacturing Extension Partnership (WMEP), work to help Wisconsin manufacturers grow their businesses and become more profitable.

The experienced specialists at the WMEP and MOC offer a broad range of services and programs customized to fit the individual needs and goals of manufacturers. Services to address both short- and long-term issues focus on six critical areas:

- Technology acceleration
- Supplier development
- Sustainability
- Workforce strategy and engagement
- Continuous improvement
- Growth and exporting

The **UW-STOUT MANUFACTURING OUTREACH CENTER** is a partnership between UW-Stout and five technical schools (Chippewa Valley, Nicolet Area, Northcentral, Western Wisconsin, Indianhead) dedicated to increasing manufacturing efficiency and decreasing waste. The partnership, established in 1994, provides services in the areas of energy management, lean manufacturing, sustainability, export readiness and much more. Working with small and midsize manufacturers, the MOC evaluates a company's value chain with a customized assessment of needs to develop a customized technology solution approach that can address long-term business needs and gaps in workforce, technology and projected operational capacity.

Fulfilling UW-Stout's polytechnic focus of multidisciplinary research, the **DISCOVERY CENTER** provides transformative education, strategic collaboration and results-focused technical assistance to business and industry.



## The **WISCONSIN MANUFACTURING EXTENSION PARTNERSHIP**

provides a variety of programs designed to help manufacturers achieve key objectives, including customized planning and implementation assistance programs that encompass growth, cost and efficiency, certification and compliance, and creating a winning culture. As of 2019, WMEP has provided 6,684 assistances, resulting in more than \$3 billion in direct economic impact. Its programs include:

- **PROFITABLE SUSTAINABILITY INITIATIVE (PSI):** The only program of its kind in the U.S., PSI helps small and midsize manufacturers develop sustainable practices that save money and improve competitiveness. PSI relies on a multidisciplinary approach to sustainability, using partners with specialized expertise to help drive improvements.
- **TRANSFORMATIONAL PRODUCTIVITY INITIATIVE (TPI):** A public-private partnership designed to improve productivity performance in Wisconsin's small and midsize manufacturers, on average by 30%. WMEP will identify the factors that affect and limit productivity growth, and will then work with individual companies to develop ways to increase productivity.
- **CYBERSECURITY:** WMEP works with manufacturers every day to help companies analyze new and existing technology to develop a framework for secure business operations using a comprehensive four-step cybersecurity program that tailors a plan specifically for a company's internal capabilities, budget and time sensitivity.

# CUTTING-EDGE PROGRAMS AND INDUSTRY-ACADEMIC COLLABORATIONS



With the rapid pace of transformation in manufacturing, Wisconsin's network of partners in industry, academia and government have created an environment of support and training for companies as they navigate the path to growth in an ever-changing

environment. By assessing where we are and where we need to be as a state, the partners continue to design solutions that are right-sized to meet the unique needs of the small and midsize manufacturers while investing in research that supports some of the world's largest original equipment manufacturers (OEMs). By fostering ecosystems where competition meets collaboration, the network accelerates innovation, time to market and overall global competitiveness.

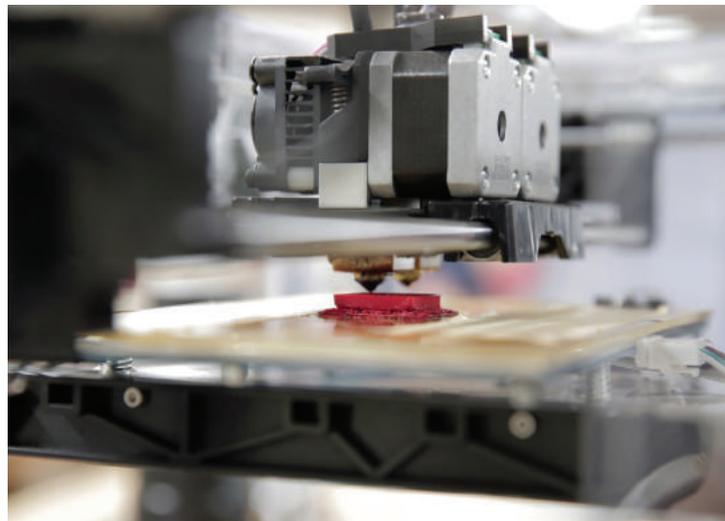


Photo courtesy of UW-Madison College of Engineering



In partnership with manufacturers across the state, the **UNIVERSITY OF WISCONSIN SYSTEM** centers of excellence programs support the state's manufacturing capabilities—from developing new technologies to improving logistics efficiency and response time. The overall UW System economic impact totals \$24 billion per year, positively impacting all 72 counties.

Wisconsin's manufacturing ecosystem brings together the public and private sectors, including school administrators, teachers and students, to ensure that the right resources are made available to continue the industry's forward momentum.



The **UNIVERSITY OF WISCONSIN-MADISON** is an academic heavyweight, with more than 40,000 students and an annual budget of nearly \$3 billion. Founded in 1848, the university consistently ranks in the top 10 nationally for research spending. The university has a wide variety of undergraduate and graduate degree programs, including 15 separate undergraduate majors in the school of engineering. The university's centers and programs serve as resources for industry, incubators for new business ventures, and training grounds for the skilled workforce of the future.

The **GRAINGER INSTITUTE FOR ENGINEERING** is a transdisciplinary organization committed to providing the infrastructure needed by UW-Madison College of Engineering faculty and students to create new knowledge and technologies, address critical societal challenges and deliver exceptional educational experiences that prepare tomorrow's engineers. With a customizable framework approach, the Grainger Institute makes industry-university collaboration easier by reducing cycle time and protecting intellectual property while delivering what companies need.

The **UW E-BUSINESS CONSORTIUM** is a business and university partnership delivering collaborative solutions and best practices in the areas of marketing, information technology, supply chain management, customer service and sales.

The **UW-MADISON INTERNET OF THINGS (IoT) SYSTEMS RESEARCH CENTER** is a hub for university-industry collaboration, focused on learning, research and hands-on investigation to foster deeper understanding, accelerated innovation and development, and successful deployment and adoption of IoT technologies and applications.

The **QUICK RESPONSE MANUFACTURING CENTER** is a nonprofit consortium of companies, faculty and students at UW-Madison that researches and implements lead-time reduction principles for manufacturers.

The **WISCONSIN ELECTRIC MACHINES AND POWER ELECTRONICS CONSORTIUM** fosters the growth of advanced electrical-energy conversion technologies and their many applications in Wisconsin industry. Since its founding in 1981, the consortium has drawn sponsorship from such companies as Boeing, Mercury Marine and Chrysler.

The **ENGINE RESEARCH CENTER** is a world-leading research and educational center dedicated to investigating the fundamental thermophysical processes that control combustion performance. The center is devoted to fundamental research on both spark-ignited and compression-ignited engines, including research through combined experimental studies with optical and metal engine facilities.



**Wisconsin Institute for Sustainable Technology**  
University of Wisconsin - Stevens Point

The **WISCONSIN INSTITUTE FOR SUSTAINABLE TECHNOLOGY** at UW-Stevens Point supports business development with applied research and laboratory services.



As a public urban research university, the **UNIVERSITY OF WISCONSIN-MILWAUKEE (UWM)** has established an international reputation for excellence in research, community engagement, teaching and entrepreneurship. With an annual budget of \$689 million and more than 27,000 students, UWM is home to an eminent academic program in materials engineering. Since the UWM Research Foundation was launched in 2006, issued patents and patent applications have grown to nearly 200.



**CONNECTED SYSTEMS  
INSTITUTE**

The **CONNECTED SYSTEMS INSTITUTE (CSI)** operates as a cutting-edge, campus-wide entity at UWM with a sophisticated facility that provides the physical infrastructure to conduct research, provide education, and connect member companies to large, midsize and small businesses in need of support in the IoT area. In addition, CSI provides unique test bed facilities covering end-to-end systems and offers programs to develop talent, expertise and solutions to lead companies to greater productivity and efficiencies in resource use through IoT technologies and applications.

In establishing the **ENERGY ADVANCEMENT CENTER**, Johnson Controls partnered with UWM to create a center with a focus on cutting-edge research for new technologies in energy storage and auto battery technology. The center boasts the largest “dry lab” hosting a state-of-the-art automated Lithium-ion pilot production line in an academic institution in North America.

The **LUBAR SCHOOL OF BUSINESS SUPPLY CHAIN MANAGEMENT INSTITUTE** is a unique industry-university partnership that examines supply chain challenges and practices within firms and across a variety of industrial sectors. The institute provides thought leadership and expertise in the broad areas of supply chain management research and education.

The **LUBAR SCHOOL OF BUSINESS CENTER FOR TECHNOLOGY INNOVATION** serves as a knowledge resource for partner companies through workshop series, custom corporate education and collaborative applied research projects.

The **CENTER FOR ADVANCED MATERIALS MANUFACTURING** aims to revitalize the materials manufacturing industry in Wisconsin and the U.S. with research on high-performance castings, metal matrix micro- and nanocomposites, and self-healing and self-cleaning materials.

**IN 2017, WISCONSIN'S COLLEGES  
AND UNIVERSITIES AWARDED MORE THAN**

**4,500**

**DEGREES**



**IN ENGINEERING AND ENGINEERING TECHNOLOGY FIELDS,  
INCLUDING CERTIFICATES, ASSOCIATE, BACHELOR'S  
AND ADVANCED DEGREES.**

Source: National IPEDS database published by the U.S. Department of Education's NCES

The UW-Extension **DIVISION OF ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT** fosters, supports and coordinates entrepreneurship and economic development activities occurring at University of Wisconsin campuses and the communities they serve. In order to accomplish this goal, UW-Extension utilizes three major centers:

- The **SMALL BUSINESS DEVELOPMENT CENTER** works with business owners and entrepreneurs throughout the state to facilitate business growth and improvement and to launch successful new companies.
- The **CENTER FOR TECHNOLOGY COMMERCIALIZATION** provides support and resources to bring innovations to market through assistance with funding acquisition efforts.
- The **CENTER FOR COMMUNITY TECHNOLOGY SOLUTIONS** works across all four UW-Extension divisions to bring the potential and economic benefit of broadband (high-speed internet) to communities across Wisconsin.



UNIVERSITY OF WISCONSIN  
**PLATTEVILLE**

The **UNIVERSITY OF WISCONSIN-PLATTEVILLE** has been educating engineers for more than 150 years, earning a national reputation as a prestigious institution.



Gateway Technical College's  
**SC JOHNSON IMET CENTER**  
(Center for Integrated

Manufacturing and Engineering Technology) was built under a partnership model that educates and certifies youth and adults on the standards of Industry 4.0 advanced manufacturing and engineering programming. With over 76,000 square feet of classroom and training labs, Gateway has transformed the manufacturing environment to include artificial intelligence, robotics, virtual reality, mechatronics, data analytics and materials engineering, all while keeping the valuable skills of CNC machining and programming, computer-assisted design and prototyping, apprenticeship and the skilled trades.



The **CENTER FOR SUPPLY CHAIN MANAGEMENT** is a nationally recognized supply chain management program that gives students real-world experience while providing businesses with access to the latest advances in supply chain management education.

The **NORTHWESTERN MUTUAL DATA SCIENCE INSTITUTE** was formed in 2018 as a collaboration among Marquette, UWM and Northwestern Mutual. With an endowed professorship at each university, research projects, new data science faculty, development of an expanded curriculum, K-12 STEM learning opportunities and pre-college programming, the initiative seeks to establish Milwaukee as a data science capital with leading academic programs and career opportunities. Beyond funding support, Northwestern Mutual will provide classroom and office space in Cream City Labs, the company's new innovation lab at its downtown Milwaukee campus. Northwestern Mutual data science leaders will also partner with the universities on teaching opportunities, mentorships and internship programs, and will help to provide insight on how student curriculum can better align with current business and industry needs.



The **MILWAUKEE SCHOOL OF ENGINEERING (MSOE)** is committed to preparing leaders to solve the diverse technical challenges of the 21st century. Graduates from all disciplines are in great demand. MSOE supports a variety of mutually beneficial partnerships with industry at the university-wide, department, program and classroom levels. The Applied Technology Center conducts applied research, offers professional education and partners with businesses to take products to market faster using state-of-the-art technology and equipment. The new Dwight and Dian Diercks Computational Science Hall positions MSOE at the educational forefront of artificial intelligence, deep learning, cybersecurity, robotics, cloud computing and other next-generation technologies. MSOE graduates are meeting the global demand for technology experts, leaders and entrepreneurs.

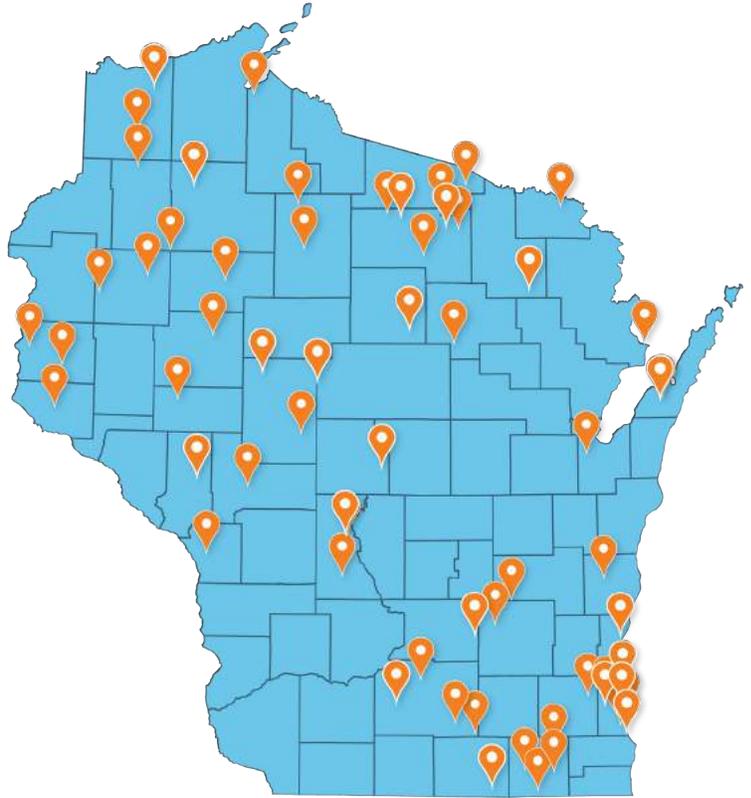
*We are proud to expand our domestic manufacturing efforts with a new facility in Wisconsin, creating jobs in partnership with the city, county and state. We know this is just the beginning of a very productive relationship with the people of Hartland and neighboring communities to make the highest quality health care products available to help improve people's lives.*

~Alan Weiss, President, Medline Industries

# FAB LABS TRAINING THE MANUFACTURING LABOR FORCE

Fabrication laboratories (fab labs) are state-of-the-art facilities where academia and industry come together to devise new solutions to market challenges. Wisconsin's investment in fab labs at the K-12 level is creating one-of-a-kind opportunities for students to get hands-on experience solving real-world problems and apply science, technology, engineering, art and math (STEAM) skills that will train them for the job opportunities of today and tomorrow.

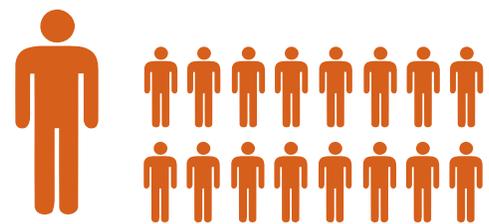
In the 58 communities that have received Fab Labs Grants from WEDC over the last four years—\$2.1 million in grants, with the grant amount matched by funds from other sources—fab labs are required to have a community access component and are encouraged to forge collaborations with area businesses, which can benefit from state-of-the-art equipment and the creativity of young minds to solve challenges the businesses face.



**A total of 58 fab labs in public school districts across Wisconsin received a total of \$2.1 million in grant funding for equipment purchases helping to train the workforce of the future.**

## MANUFACTURING EMPLOYMENT CATEGORIES

INDUSTRY	JOBES
1 Fabricated metal product manufacturing	76,247
2 Food manufacturing	69,083
3 Machinery manufacturing	66,983
4 Plastics and rubber products manufacturing	33,632
5 Paper manufacturing	29,566
6 Printing and related support activities	28,134
7 Transportation equipment manufacturing	26,240
8 Electrical equipment and appliance mfg.	24,294
9 Computer and electronic product manufacturing	18,819
10 Chemical manufacturing	18,342



# 91%

**GREATER EMPLOYMENT CONCENTRATION  
THAN THE NATIONAL AVERAGE**

Source: Quarterly Census of Employment and Wages - Bureau of Labor Statistics, Annual 2018 employment

# WISCONSIN SUPPLIER NETWORK

Designed to connect manufacturers with premier suppliers, the Wisconsin Supplier Network [WisconsinSupplierNetwork.com](http://WisconsinSupplierNetwork.com) is a statewide online platform providing access to products, services and solutions—searchable by keywords, capabilities and industries. The network supports companies expanding within, or relocating to, Wisconsin in establishing a local supply chain to accelerate time to market.

**2<sup>ND</sup>** HIGHEST MANUFACTURING  
CONCENTRATION OF ANY  
STATE IN THE NATION



Source: Bureau of Labor Statistics QCEW Annual 2018

## CATERING EDUCATION TO EMPLOYERS' NEEDS

Following Foxconn Technology Group's announcement of plans to build a manufacturing facility in Wisconsin, Gateway Technical College (with nine campuses and centers in southeast Wisconsin) announced a partnership with Foxconn to assist in workforce development.

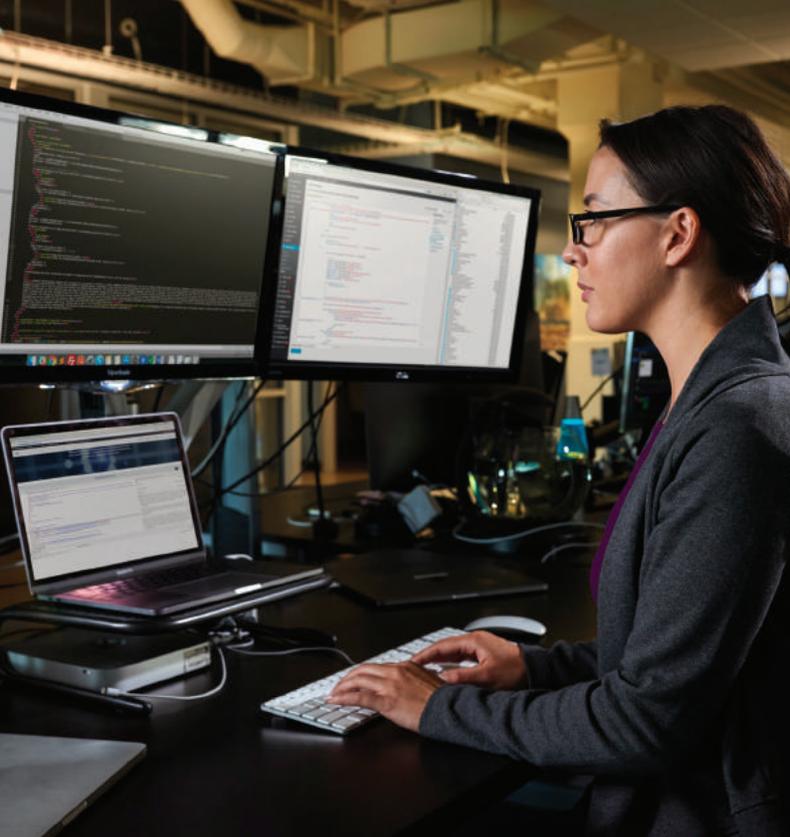
By partnering with companies such as Foxconn, educational institutions keep their programs as current as possible in the face of rapid industry changes, ensuring that students are prepared for the emerging job market. The college has also submitted a \$5 million grant proposal to expand the iMET Center and add the capacity to train an additional 1,000 students each semester. This initiative is a new prong in a long-standing strategy to understand and respond to the needs of local employers. The college has previously partnered with companies including Snap-on Inc. to address workforce challenges.

# BUILDING THE WORKFORCE OF THE FUTURE

The Northeast Wisconsin Manufacturing Alliance—known as the NEW Manufacturing Alliance—is a group of manufacturers that works with educators, workforce development organizations, chambers of commerce and state government to promote manufacturing in the northeast Wisconsin region.

The organization hosts the annual Manufacturing First conference, which highlights best practices and industry trends for Wisconsin manufacturers. The organization has a broad swath of programs for students and educators that contribute to workforce development, including:

- Serving as a connector between manufacturers and students that are exploring an interest in manufacturing careers, helping to arrange plant tours and internships
- Hosting the "Get Real Math" video series on its website, providing a resource educators can use to demonstrate to students how math skills are needed in practical, real-life situations
- Organizing task forces to address STEM education, including the Industry 4.0 committee to engage K-12 students with manufacturing careers
- Hosting the Seaperch Competition, an innovative underwater robotics program that equips teachers and students with the resources they need to build an underwater remotely operated vehicle in an in-school or out-of-school setting
- Promoting the Excellence in Manufacturing K-12 Partnerships Awards to recognize manufacturers that work with and support the education of the next-generation workforce



## ACADEMIC COLLABORATION FOR TOMORROW'S TALENT

In an unprecedented move, 18 higher education institutions that together represent more than 96% of post-secondary students in the greater Milwaukee region have come together to form the Higher Education Regional Alliance (HERA). The institutions include:

- Alverno College
- Bryant & Stratton College
- Cardinal Stritch University
- Carroll University
- Carthage College
- Concordia University
- Gateway Technical College
- Herzing University
- Marquette University
- Milwaukee Area Technical College
- Milwaukee Institute of Art & Design
- Milwaukee School of Engineering
- Mount Mary University
- UW-Milwaukee
- UW-Parkside
- UW-Whitewater
- Waukesha County Technical College
- Wisconsin Lutheran College

## RETRAINING MILITARY VETERANS FOR A NEW MISSION

The evolution of automation is creating the need for more advanced manufacturing jobs than ever. To help meet this growing demand, two Milwaukee-based companies—Rockwell Automation and ManpowerGroup—launched the Academy of Advanced Manufacturing, a joint effort to provide 1,000 military veterans per year with the skills to succeed in advanced manufacturing roles. At the end of their training members of each cohort graduate as certified instrumentation, automation and controls technicians, helping to fill a critical skills gap in U.S. manufacturing.

The program helps transitioning military veterans to adapt their technical knowledge for skills that are sorely needed in today's job market, and allows employers to benefit from the sense of discipline and purpose military veterans share. Upon completing the program, graduates are placed through a formal interview process with employers that need their new skills—typically customers of Rockwell Automation who have pressing needs to augment their workforce with technically trained staff. The program provides these employers with job-ready talent and eliminates the significant time and costs they would typically incur to recruit, assess and train those new hires.

This group of colleges has partnered with the Greater Milwaukee Committee, Metropolitan Milwaukee Association of Commerce, the Milwaukee 7, Employ Milwaukee, Milwaukee Succeeds and Racine-based Higher Expectations to address the manufacturing sector's growing workforce gap and build agility to respond to changing market demands.

The alliance is moving rapidly to accelerate credentialing, explore seamless articulation agreements, advance collaborative engineering degrees and offer innovative programs aligned with industry needs. HERA members are creating a database to compare workforce talent needs with academic programs and respective enrollments to identify growth areas. The alliance also plans to identify opportunities for new educational programs to meet business and industry needs, while embedding a seamless transition between two- and four-year institutions. The ultimate goal is to supply employers with talent while simultaneously advancing the future success of communities in the region.



# WORLDWIDE IMPACT

MANUFACTURED GOODS ACCOUNT FOR

**85%** OF WISCONSIN EXPORTS

Source: U.S. Census Bureau data as reported by WISERTrade, 2018



MANUFACTURERS PRODUCED

**\$ 63 BILLION**



**WORTH OF ECONOMIC OUTPUT IN 2018, ACCOUNTING FOR 19% OF THE STATE'S GROSS DOMESTIC PRODUCT.**

Source: Bureau of Economic Analysis

## GLOBAL LEADERSHIP

Wisconsin's global leadership in manufacturing was built, and is sustained, by synergistic relationships among industry, academia and economic development organizations—all of whom share a commitment to continuous improvement.

Manufactured goods account for 86% of all Wisconsin exports, demonstrating a healthy worldwide demand for products and technologies originating in the state. Mature markets as well as developing economies across the globe benefit from the proven expertise Wisconsin companies have developed and successfully applied both domestically and internationally. Consistently ranking among Wisconsin's top export categories are industrial machinery, electrical machinery, and medical and scientific instruments. These three categories accounted for more than 45% of Wisconsin's total manufacturing exports in 2018.

More than 95% of the world's consumers reside outside the U.S., and the **EXPORTECH™** Program provides small and midsize manufacturers with training and guidance to develop and expand their exports. This focused three-session program with follow-up helps companies identify export markets and reduce time to market for their products. Within the first year after completion, companies on average increase sales by \$900,000.



**96%** OF CONSUMERS LIVE OUTSIDE THE U.S.  
Source: World Bank population data, 2018

# TOP WISCONSIN PRODUCT EXPORTS 2018

(Product categories are based on 2-digit HS code numbers.)

CATEGORY	EXPORT VALUE	PERCENT OF STATE EXPORTS
Industrial machinery	\$5,736,785,272	25.3
Electrical machinery	\$2,572,926,686	11.3
Medical and scientific instruments	\$2,153,968,792	9.5
Non-rail vehicles and parts	\$1,412,195,423	6.2
Plastic products	\$1,146,069,267	5.1
Paper products	\$888,717,162	3.9
Aircraft/spacecraft and parts	\$729,700,658	3.2
Articles of iron and steel	\$456,204,994	2.0
Miscellaneous chemical products	\$429,653,890	1.9
Pharmaceuticals	\$393,933,639	1.7

Source: U.S. Census Bureau data as reported by WISERTrade

# WISCONSIN MANUFACTURING COMPANIES

## ABB

New Berlin and Wauwatosa



ABB is a pioneering technology leader with a comprehensive offering for digital industries. With a history of innovation spanning more than 130 years, ABB is today a leader in digital industries, with four customer-focused, globally leading businesses—electrification, industrial automation, motion, and robotics and discrete automation—supported by its common ABB Ability™ digital platform. ABB operates in more than 100 countries, with about 147,000 employees.

ABB's motion business employs more than 4,000 engineers, researchers and manufacturing personnel in the U.S., including 340 at the drives U.S headquarters in Wauwatosa and 250 at the drives plant in New Berlin. Since 1981, ABB's Wisconsin factory has manufactured and assembled low- and medium-voltage drives for industry that can be found in applications within amusement parks, corporate offices, sports venues, breweries, bakeries and even the Statue of Liberty.

As the world's leading manufacturer of drives, ABB offers products, systems and service solutions that not only enhance its customers' businesses, but also lessen environmental impacts through improved energy efficiency and increased industrial productivity

## ROCKWELL AUTOMATION

Milwaukee



Rockwell Automation is a leading global provider of industrial automation power, control and information solutions that help manufacturers achieve competitive advantages for their businesses. Its sole focus as a business is to help industrial companies and their people be more productive, to make the most of scarce resources.

Rockwell helps customers automate manual, repetitive physical processes. With automation, the company enables people to focus on higher-value activities—to solve problems, make decisions and innovate. Complementing these capabilities by harnessing the power of the Industrial Internet of Things and information software unlocks additional levels of productivity. This is how Rockwell brings the connected enterprise to life and helps its customers and their people work smarter and safer. The company's brand promise, "Expanding Human Possibility," reinforces the central role people play in advanced manufacturing. It's about bringing out the best in people and technology. In one example, the company's Academy of Advanced Manufacturing provides technical education for returning servicemen and women. More than 150 veterans have graduated since the program's inception.

Rockwell is committed to a culture where everyone can do and wants to do their best work, and where diverse perspectives are sought and welcomed. The company is committed to doing things the right way, every day, for the long term with integrity and respect for each other and the environment. Its renewed focus on people—with its customers, in the community and within the company—intertwines business goals and social responsibilities.

# WISCONSIN

## OSHKOSH CORPORATION

Oshkosh



Oshkosh Corp. (NYSE: OSK) makes innovative, mission-critical equipment to help everyday heroes advance communities around the world. Headquartered in Wisconsin, the company employs more than 15,000 team members worldwide, all united behind a common cause: to make a difference in people's lives. The company's engineering and product innovations help keep soldiers and firefighters safe, are critical in building and keeping communities clean, and help people do their jobs every day. Oshkosh products can be found in more than 150 countries under the brands of JLG®, Pierce®, Oshkosh® Defense, McNeilus®, IMT®, Frontline™, Jerr-Dan®, Oshkosh® Airport Products, CON-E-CO® and London™.



**9,400+**  
MANUFACTURING  
COMPANIES IN WISCONSIN

Source: Source: Bureau of Labor Statistics QCEW Annual 2018

## KOMATSU

Milwaukee



Headquartered in Milwaukee, Komatsu Mining Corp. is part of the global Komatsu family of companies indispensable partners to the mining, forestry, industrial and construction industries. Komatsu Mining Corp. is home to the industry-leading P&H, Joy and Montabert equipment and service brands for mining and related industries. The company's history in Milwaukee dates back to the origin of the P&H brand in 1884.

In 2018, the company announced plans to build a new state-of-the-art headquarters and manufacturing campus at the former Solvay Coke site along the Milwaukee riverfront on Greenfield Avenue. The 57-acre South Harbor Campus is near the location of the company's original machine shop off South First Street. Plans call for about 180,000 square feet of office, museum and training space and 430,000 square feet of manufacturing space, bringing Komatsu's current Milwaukee-area office and manufacturing facilities to a central location. The project is expected to be completed in 2022. The campus will include advanced machine, heat treat and fabrication shops; state-of-the-art technology, research and development, and robotics labs; an office complex and data solutions center and a global training and conference center. The City of Milwaukee is constructing a public riverwalk adjacent to the campus.

# MANUFACTURING COMPANIES

## MILWAUKEE TOOL

Brookfield



Milwaukee Tool, founded in 1924, is a global leader in delivering innovative solutions to the professional construction trades that offer increased productivity and unmatched durability. Whether it is through their world-leading M12™ and M18™ cordless systems, the groundbreaking performance of their M12 and M18 FUEL™ products, jobsite lighting, time-saving accessories, or innovative hand tool and storage products, Milwaukee is dedicated to delivering a steady stream of advanced, trade-specific solutions. Milwaukee Tool is a Brookfield, Wisconsin-based subsidiary of Techtronic Industries Co. Ltd.

In 2018, WEDC agreed to provide Milwaukee Tool with up to \$8 million in state tax credits to support the company's plans to build a \$32 million R&D facility in Brookfield, a project expected to create 350 new jobs over a five-year period. This newest expansion will house the company's advanced manufacturing, engineering, and global research and development center, and will bring its global headquarters space from 390,000 square feet to 504,500 square feet.

## KOHLER CO.

Kohler



After immigrating to Wisconsin from Austria, businessman and visionary John Michael Kohler acquired a foundry in rural Wisconsin in 1873. The foundry produced a variety of cast-iron and steel products, but it was one particular product that would define the direction of the company: in 1883, Kohler heated one of his products to 1,700°F and sprinkled it with enamel powder. Placing a picture of it in the center of his one-page catalog, he called it "a horse trough/hog scald" but noted that "when furnished with four legs will serve as a bathtub."

Today, Kohler has grown from a world-renowned plumbing company into a multifaceted global family of brands focused on the concept of gracious living. Kohler is a global leader in the manufacture of kitchen and bath products, engines and power systems, premier furniture under the brands of Baker and McGuire, and cabinetry and tile. The company also owns and operates hospitality and golf resort destinations.

With 48 manufacturing locations worldwide, Kohler Co. is one of the U.S.'s oldest and largest privately held companies, comprising more than 30,000 associates.

**TOP 10** U.S. STATES  
FOR MANUFACTURING  
COMPANY HEADQUARTERS

Source: IndustryWeek 2019

The Wisconsin Economic Development Corporation (WEDC) leads economic development efforts for the state by advancing and maximizing opportunities in Wisconsin for businesses, communities and people to thrive in a globally competitive environment. WEDC provides resources, operational support and financial assistance to companies, partners and communities in Wisconsin. WEDC achieves its mission through initiatives driven by five strategic pillars: business development; community and economic opportunity; strategic economic competitiveness; state brand management and promotion; and operational and fiscal excellence. Working with more than 600 regional and local partners, WEDC develops and delivers solutions representative of a highly responsive and coordinated economic development network.

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