



ENERGY, POWER, AND CONTROLS EXCELLENCE

WISCONSIN IS LEADING THE WAY TOWARD AN EFFICIENT AND SUSTAINABLE FUTURE.

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WISCONSIN IS LEADING THE WAY TOWARD AN EFFICIENT AND SUSTAINABLE FUTURE.



1,125

energy, power,
and controls
companies



121,572

energy, power, and
controls jobs



**#2 IN
THE U.S.**

for manufacturing jobs
as a percent of total
workforce



**445 WIND
TURBINES**

with a combined capacity of
735MW power the equivalent of
172,000 homes



**105 HYDROPOWER
FACILITIES**

together power the
equivalent of
241,000 homes



130MW
of installed
**SOLAR
POWER**



**22
MINUTE**

average
commute
time



Access to a talent pool of

64,618

engineering graduates
from across the
Midwest (2022)



Workforce Innovation
Grants are providing

\$128 MILLION

to 27 organizations across Wisconsin
to address barriers to workforce
participation such as:

- Child care
- Transportation
- Housing

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INDUSTRY STRONG. TECHNOLOGY SMART. FUTURE READY.

1,125

Wisconsin energy, power, and controls companies

Data Axle, 2024

121,572

Wisconsin energy, power, and controls jobs

Lightcast 2024.1 Dataset



BUILT FOR INNOVATION

Wisconsin is a global center for energy, power, and controls—leveraging market-leading industrial capabilities, advanced academic research, and specialized institutions. We are generating new ideas, advanced applications, and energy efficiency technologies to power the world. Electrical machinery and control manufacturing is one of Wisconsin's fastest-growing and most competitive industrial sectors, and companies in this sector are committed to addressing the world's energy challenges by continuously adapting to new market demand and opportunities. Across the world and throughout this essential and rapidly changing industry, it's hard to find an electron that doesn't flow through something that's made in Wisconsin.

ENERGY — grid modernization, innovating and building next-generation and more compact microgrids that are more reliable and affordable, biofuels, nuclear fusion and fission, renewables and new battery chemistry systems to improve energy storage and safety, and digital twins for industrial efficiencies

POWER — transmission, distribution, monitoring, efficiency, and quality, including improved insulators and dielectrics for higher energy and more compact applications

CONTROLS — power controls and sensors; automation and systems intelligence for industrial and building applications; energy management; SMART grid/distributed energy, wind, and solar control; energy cybersecurity and resiliency

WISCONSIN'S LEADERS IN ENERGY, POWER, AND CONTROLS

GENERAC

Johnson
Controls

EATON

Rockwell

ALLIANT ENERGY

we energies **we**

CLARIOS

Ingeteam

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22 MINUTE

average commute time

U.S. Census Bureau, American Communities Survey



.4%

effective tax rate on income from manufacturing activities

Wis. Stat. § 71.07(5n)

In Wisconsin, we are defined by our collaborative approach. Centers and institutes facilitate partnerships between academia and industry, often with federal funding benefits, while advancing innovation and developing next-generation talent. Regardless of your company's niche in the energy, power, and controls ecosystem, we probably have you covered.

ENERGY AND ENERGY STORAGE

The **Wisconsin Energy Institute** is the home of catalytic research, training, and technology, with nearly 170 faculty members working across disciplines to solve large-scale energy challenges. (UW-Madison)

The **Center for Sustainable Electrical Energy Systems** is developing technologies to make electric power systems more sustainable, cost-effective, and secure. Researchers are developing power-dense and efficient power electronic converter packages, making systems lighter and more efficient. Facilities also include a one-of-a-kind customized environment for electromagnetic interface measurement. (UW-Milwaukee)

The **Energy Advancement Center** hosts one of the few dry labs for energy storage research in a North American university. This is one of only a handful of labs in the world that addresses a full product cycle—material synthesis, proof-of-concept, fundamental electrochemical and material studies, and bench-top manual fabrication of vehicle batteries, through pilot production. (UW-Milwaukee)

The **U.S. Department of Energy Industrial Assessment Center** provides free evaluations to manufacturers and wastewater treatment plants to help them reduce waste, save energy, and reduce carbon emissions. To date the center has saved those businesses roughly 20% of their energy bills. (UW-Milwaukee)

The **Great Lakes Bioenergy Research Center**, at UW-Madison is one of four bioenergy research centers of excellence established by the U.S. Department of Energy. It researches and develops efficient, sustainable biofuels and bioproducts made from dedicated energy products grown on marginal land.

The **Wind Tunnel** at UW-Milwaukee is the largest in Wisconsin. It is used to test wind turbine rotor blades as researchers work to make the turbines more efficient, quieter and longer-lasting. The facility is widely used for aerodynamics, to measure airflow over buildings and many other applications. The team also uses biomimicry in this work, using the shape of bird wings as inspiration for the shape of the blades. (UW-Milwaukee)



#2

for manufacturing employment concentration in the U.S.

Business Facilities magazine, July/August 2023

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POWER

The **Power Systems Engineering Research Center** is a hotbed of electrical transmission and distribution research. (UW-Madison)

With more than 70 corporate sponsors, the **Wisconsin Electric Machines and Power Consortium's** researchers work together to research and develop the newest technologies and techniques in electric machines, power electronics, actuators, sensors, drives, motion control, and drive applications. (UW-Madison)

The **Dielectric Resiliency and Electrical Aging Mitigation (DREAM) Lab** develops novel materials and approaches to address conventional and emerging dielectric challenges and to secure the reliability of future power and energy technologies. (UW-Milwaukee)

CONTROLS

The **Grid-connected Advanced Power Electronics Systems** (a National Science Foundation Industry/University Cooperative Research Center) has a mission to accelerate the adoption and insertion of power electronics into the electric grid, to improve system stability, flexibility, controllability, robustness, and economy. Member universities and companies span the U.S. (UW-Milwaukee)

The **Connected Systems Institute**, launched with significant support from Rockwell Automation and Microsoft, develops domain specialists through education, state-of-the-art lab and collaborative research

facilities, which include an advanced manufacturing testbed that's the only one of its kind in the U.S., digital twin technologies, and industrial machine learning and networking. (UW-Milwaukee)

The **Trustworthy Cyber-Physical Systems and Infrastructures Lab** addresses the issues related to the emerging fields of cyber-physical systems applied to smart grid, microgrid, energy-efficient buildings, water and natural gas distribution networks, intelligent and sustainable transportation, health care systems and smart manufacturing. (UW-Milwaukee)



Federal agencies funding academic energy, power, and controls research in Wisconsin include:

- The U.S. Department of Energy
- The National Science Foundation
- The U.S. Department of Defense
- The U.S. Navy (Office of Naval Research)
- The U.S. Air Force
- The U.S. Department of Agriculture
- The Advanced Research Projects Agency-Energy (ARPA-E)
- STTR/SBIR grants from these agencies

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WISCONSIN BY THE NUMBERS



**445 WIND
TURBINES**

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735MW power the equivalent of
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**105 HYDROPOWER
FACILITIES**

together power the
equivalent of
241,000 homes¹



130MW
of installed
**SOLAR
POWER¹**



393

publicly accessible
charging stations for
electric vehicles²



4,700+

buildings with green
certifications³



Wisconsin was awarded a
\$62+ MILLION

federal Solar for All Grant
to help fund solar energy
systems for low- and
moderate-income
households.

Sources: (1) renewwisconsin.org; (2) [Wisconsin Electric Vehicle Infrastructure Plan, 2023 update, Wisconsin Dept. of Transportation](#); (3) [Green Building Information Gateway](#)

ENERGY, POWER, AND CONTROLS EXCELLENCE

WISCONSIN IS LEADING THE WAY TOWARD AN EFFICIENT AND SUSTAINABLE FUTURE.

THE WORKFORCE YOU NEED



4,782

engineering degrees and certificates awarded in 2022

Lightcast Q1 2024 Dataset

64,618

engineering graduates from across the Midwest

Lightcast Q1 2024 Dataset

Wisconsin is 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 offers a steady pipeline of talent to keep our state at the forefront of innovation and economic growth.

The **Universities of Wisconsin** are regularly cited as leaders in terms of quality and reach, with established leadership in research and talent development. 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.

Our 16 technical colleges and 34 universities, with a combined total of 99 campus locations around the state, prepare students to make strong contributions to Wisconsin's economy—and the leaders who hire them.

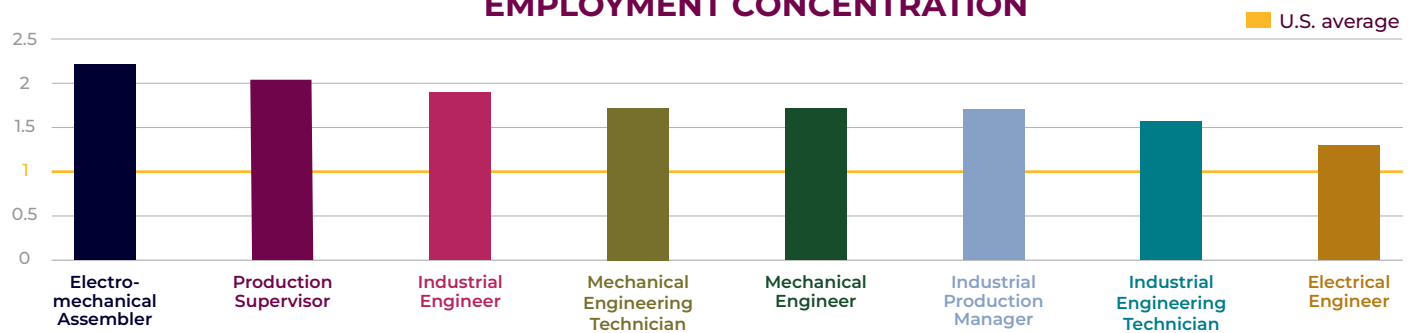
Sources: (3) Carnegie Classification of Institutions of Higher Education; (4) U.S. National Center for Education Statistics; (5) U.S. News & World Report

ADVANCING KNOWLEDGE

In Wisconsin, our universities lead in research and technology commercialization, supporting partnerships, companies, and policymakers to develop new, innovative products that fill market needs. For example:

- ▶ UW-Madison and UW-Milwaukee are both **Tier 1 research universities**, among the top in the nation.³
- ▶ UW-Madison ranks in the top 3% of U.S. universities for **engineering research expenditures** and near the top of global rankings.⁴
- ▶ UW-Milwaukee, with its College of Engineering and Applied Science, is rated among the **top 4% of research universities** in the U.S.³
- ▶ Ranked in the top five nationally for **computer engineering** and top 10 for **mechanical and electrical engineering**, the Milwaukee School of Engineering has always engaged leaders of business and industry.⁵

EMPLOYMENT CONCENTRATION



Lightcast 2024.1 Dataset

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THE WORKFORCE YOU NEED



MINNEAPOLIS-ST. PAUL METRO AREA HAS A COMBINED WORKFORCE OF **2.4 MILLION** for employers to draw from

Source: U.S. Census 2022 American Communities Survey

MINNEAPOLIS



SINCE 2017, WISCONSIN HAS HAD A **NET INFLOW**

of people in the family formation years of ages 25-54.

Forward Analytics, 2022

DULUTH/SUPERIOR
185,000*

WAUSAU
103,000*

EAU CLAIRE
114,000*

GREEN BAY
213,000*

APPLETON
158,000*

OSHKOSH-NEENAH
113,000*

LA CROSSE
91,000*

FOND DU LAC
66,000*

SHEBOYGAN
74,000*

MADISON
465,000*

MILWAUKEE
1 Million*

JANESVILLE-BELOIT
106,000*

CHICAGO



MILWAUKEE AND CHICAGO METRO AREAS HAVE A COMBINED WORKFORCE OF **7.2 MILLION** for employers to draw from

Source: U.S. Census 2022 American Communities Survey

UNPARALLELED ADVANTAGES

Wisconsin offers a business climate that's especially suited to energy, power, and controls.

Workforce

We deliver the second-highest concentration of experienced manufacturing workers in the U.S.,¹ often three to four times higher in critical industry sectors than competing states.

Academic excellence

We push the boundaries of theoretical and applied science—and prepare talent for the future. At more than \$1.5 billion annually, our flagship University of Wisconsin-Madison ranks eighth in the U.S. for research spending; the University of Wisconsin System awards more than 40,000 degrees annually.²

Low risk of natural disaster

We offer remarkably low risk for every imaginable type of disaster, from earthquakes and wildfires to climate threats like heat waves, tornadoes, and hurricanes.

Sources: (1) Business Facilities magazine, July/August 2022; (2) U.S. NCES Higher Education Research and Development Survey

* Figures represent the working-age population for each Metropolitan Statistical Area

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UNPARALLELED ADVANTAGES

NEARLY 40% 
of U.S. manufacturers
ARE REACHABLE
WITHIN
A DAY'S DRIVE

U.S. Bureau of Labor Statistics

PORT OF DULUTH-SUPERIOR:

The largest and busiest port of the Great Lakes, handling 35 million tons annually; connects to the U.S. East and Gulf coasts via the St. Lawrence Seaway and the Mississippi River, with rail connections to the West Coast

PORT OF GREEN BAY:

Provides the shortest and most direct route for shipments between the Midwest U.S. and the rest of the world—including overnight delivery within a 400-mile (650 km) radius; equipped to handle dry bulk commodities, liquids, and oversized cargo

PORT OF MILWAUKEE:

Fifth-largest port in the Midwest and the only Lake Michigan port approved to serve the Mississippi River inland waterway system with direct barge access to the Illinois River; equipped to handle heavy machinery exports and bulk goods in liquid and solid form with storage available; includes a state-of-the-art agriculture maritime export facility

WISCONSIN IS SERVED BY FOUR CLASS I RAILROADS

Surface Transportation Board

-  COMMERCIAL PORTS
-  COMMERCIAL AIRPORTS
-  FOREIGN TRADE ZONES
-  HIGHWAY SYSTEMS
-  RAILROAD LINES (SELECTED)

MINNEAPOLIS-SAINT PAUL INTERNATIONAL AIRPORT
25 MILES (40 km)

CHICAGO O'HARE INTERNATIONAL AIRPORT
45 MILES (72 km)

AN IDEAL LOCATION

From the center of the U.S., Wisconsin offers quick access to markets throughout North America, and our well-developed logistics sector moves your goods to market efficiently via rail, road, air, or water.

Natural resources

More than two-thirds of Wisconsin's borders are water,¹ and 21% of the entire world's fresh water is located along the state's borders.² In addition, Wisconsin has 1.2 quadrillion gallons of groundwater;³ this plentiful supply means Wisconsin businesses have no trouble getting access to the water they need for their operations.

Fiscal responsibility

From our fully funded state pension system to our extraordinary credit rating, we offer a politically stable, low-tax, low-regulation, business-welcoming environment.

Sources: (1) Wisconsin State Cartographer's Office and U.S. Census Bureau; (2) Wisconsin Water Facts, Wisconsin Water Library, UW-Madison; (3) Wisconsin Department of Natural Resources

CANADA



MEXICO

Gulf of Mexico



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