



MINNESOTA STATE

Centers of Excellence

REPORT TO THE LEGISLATURE
JANUARY 15, 2025



About Minnesota State and the Minnesota State Centers of Excellence

Minnesota State is making a difference. From the students we serve to our business partners and those we employ, chances are good you or someone you know has benefited from the work of your state colleges and universities.

Minnesota State is the fourth largest system of state colleges and universities in the United States and the largest in the state, with 26 colleges, 7 universities, and 54 campuses. Each year, we serve 270,000 students, with more Black and Indigenous students, as well as students of color, attending our colleges and universities than all other higher education providers in Minnesota combined. We offer the lowest tuition in Minnesota, with 55% of our college students and 59% of our university students receiving financial aid.

Minnesota State employs more than 14,200 dedicated faculty and staff focused on student success and provides 4,112 academic programs, including 893 fully online programs. Additionally, we offer over 9,600 customized and specialized training, occupational, and professional classes. Each year, Minnesota State awards more than 34,000 degrees, certificates, and diplomas.

A significant majority—63%—of Minnesota resident students pursuing an undergraduate credential do so at a Minnesota State college or university, and 86% of Minnesota State students take jobs in a related field of study after graduation. The system boasts 7,000+ employer partnerships and contributes over \$8.4 billion to the state's economy annually.

Strongly supporting these efforts are the Minnesota State Centers of Excellence. Established to bridge the gap between education and workforce needs, the Centers drive innovation and collaboration among higher education institutions, businesses, communities, and K-12 schools. Through specialized programs, hands-on learning opportunities, and close partnerships with industry leaders, the Centers provide tailored solutions to meet workforce demands in key sectors including agriculture, advanced manufacturing, energy, engineering, healthcare, information technology, and transportation. These efforts align seamlessly with Minnesota State's broader mission to create a world-class workforce and ensure economic vitality across the state.

This report provides an overview of how the Minnesota State Centers of Excellence leverage industry-education partnerships to prepare a skilled workforce for Minnesota's future needs while highlighting opportunities for growth and sustained impact.



AGRICULTURE, NORTH

The center, also known as, AgCentric serves as a vital connector for agriculture, food, and natural resources (AFNR) education and industry in northern Minnesota, fostering workforce development and advancing innovative projects to strengthen the agricultural sector.

Key Highlights:

Career Pathways in Meat Cutting and Butchery:

Fiscal Year 2025 marked the successful conclusion of a \$2 million federal grant to launch meat cutting and butchery programs at Central Lakes and Ridgewater Colleges. These programs have paved the way for a new career pathway, supported by over 20 high school grants funded in partnership with the Minnesota Department of Agriculture (MDA) to build career literacy and expand student pipelines.

Addressing AFNR Career Literacy Gaps:

AgCentric engaged more than 25,000 students across Minnesota through targeted outreach, including Career Connections events, classroom presentations, and partnerships with 22 post-secondary institutions and industry leaders. These efforts empower students to explore high-demand, high-wage careers in agriculture.

Minnesota Farm Business Management Program Expansion:

AgCentric continues to enhance the Farm Business Management (FBM) Program by supporting underserved producers, expanding climate-smart benchmarking, and growing the FINBIN database by over 2%. Strong faculty retention, supported by initiatives like the Professional Excellence Program (PEP) and Post-Secondary Instructor Mentor (PIM) programming, ensures program sustainability and success.

Innovative Partnerships:

AgCentric has leveraged partnerships to train 60 early-career agency professionals, advance the Rural Mental Health program, and secure funding for water quality scholarships, beginning farmers, and MAELC challenge grants. Collaborations with Central Lakes Ag & Energy Center and TEAM AGED consortia further underscore AgCentric's commitment to building Minnesota's agricultural workforce.

Robotics and Automation Career Pathway:

AgCentric, in collaboration with Central Lakes, Northland, and St. Cloud Colleges, has launched a \$650,000 National Science Foundation/Advanced Technological Education-funded project to develop a national curriculum in agricultural robotics and automation. Training for the first cohort of teachers is underway, with strong industry engagement.

Legislative Advocacy:

AgCentric actively advocates for agriculture and education at state and federal levels, participating in initiatives such as the Midwest Agriculture Council's DC Fly-In, congressional advisory boards, and farm bill discussions. The center supports increased funding for FBM and career and technical education to remain competitive with neighboring states.

Through these initiatives, AgCentric exemplifies its commitment to advancing agriculture in Minnesota and equipping the next generation of agricultural leaders with the skills and knowledge to thrive.

AGRICULTURE, SOUTH

The Southern Agricultural Center of Excellence (SACE) plays a vital role in aligning academic institutions, industry, and community resources to meet the workforce needs of agriculture in southern Minnesota. With a mission to provide cutting-edge education and foster sustainable practices, SACE focuses on enhancing agricultural career pathways, promoting innovation, and supporting underserved producers.

Key Highlights:

Advancing Agricultural Education and Outreach:

SACE engages students, educators, and industry professionals through workshops, career fairs, and innovative outreach efforts. In 2024, it participated in over 140 events and engaged face-to-face with 20,000+ people. These include partnerships with Minnesota 4-H and the Minnesota State Fair, utilizing tools like its combine simulator to raise public awareness about Agriculture, Food, and Natural Resources (AFNR) careers.

Promoting AFNR Career Pathways:

The center expands AFNR education access through digital outreach, partnerships with Minnesota Service Coops, homeschool groups, and career counselors. In 2024, its team engaged students from over 90 school districts in southern and central Minnesota. The media highlighted its multilingual career fair resources in Spanish, Hmong, Somali, and English.

Supporting Farm Business Management (FBM):

SACE continues to strengthen the Minnesota FBM program, focusing on climate-smart benchmarking, supporting underserved producers, and growing the Farm Financial Management Database (FINBIN) by over 2%. Faculty retention remains strong due to robust mentoring and professional development programs, ensuring the program's sustainability and impact.

Farm Succession Retreat:

SACE secured a two-year, \$100,000 contract from the Minnesota Department of Agriculture to offer confidential farm succession coaching. The service is primarily delivered by a retired FBM instructor and includes collaboration with U of MN Extension on Farm Succession Retreats. Last winter, retreats in Mankato and St. Cloud drew 64 families, and 43 follow-up counseling sessions provided 248 hours of individual farm transition support.

Enhancing Local Food Systems and Market Access:

In collaboration with partners like the Region 9 Growers' Network, The Living Earth Center and South Central College, SACE supports small producers by providing access to high tunnels for growing and marketing food through farmers' markets. The re-establishment of the Mainstreet Business Focused on Food and Agriculture (MBFFA) program further empowers local producers through education in financial management and market channel analysis.

Through these efforts, SACE continues to serve as a leader in agricultural education and workforce development, driving innovation, sustainability, and economic growth in Minnesota's agricultural sector.



ENERGY

The Minnesota Energy Center of Excellence is committed to developing clear, robust pathways for students to pursue energy careers and increasing enrollment in energy training programs. By expanding the pipeline of skilled workers ready for employment or promotion, the Center ensures Minnesota remains at the forefront of renewable energy innovation and workforce readiness.

Key Highlights:

Students: 15,000 participated in STEM and clean energy programs, reflecting a 16% rise from the previous year and fueling increased interest in energy careers in Minnesota.

Educators: 12 took part in teacher externships, incorporating industry-relevant skills into curricula across the state.

Partnerships: Collaboration with over 100 industry and education partners enhanced the reach and impact of all programs.

Resources: \$550,000 was granted for workforce development, improving pathways into high-demand energy fields.

Major Initiatives and Innovations:

Energy Education for Educators: 15 educators gathered at the University of St. Thomas to offer hands-on learning experiences through site visits and technical workshops.

Career Pathways Development: Minnesota Works launched job programs focused on high-wage, high-demand trades and technical careers. The Center also participated in a national initiative to establish an energy and natural resources cluster and outline high school standards.

Electric Vehicle Supply Equipment Training: Minnesota West and Hennepin Tech are developing EV Service Technician certifications. These certifications will be integrated into electrician programs and introduced by 2026, thus preparing Minnesota's workforce for the changing clean energy sector.

Solar for Schools: Renewable energy systems installed at Minnesota West's Canby campus will decrease costs and serve as educational tools for electrical students.

Green Energy Careers Outreach: Minnesota Pollution Control Agency selected the Center to receive the service and support of a green careers outreach volunteer focused on K-12 and community engagement via the GreenCorps Program.

As leadership transitions occur and new programs are introduced, the Center continually adapts, emphasizing accessible and inclusive education. The Energy Center cultivates a sustainable, innovative, and equitable energy workforce by strengthening connections among communities, education, and industry.

Together, we are nurturing opportunities, motivating students, and shaping Minnesota's energy future.

ENGINEERING

The Minnesota State Engineering Center of Excellence leads the way in advancing engineering education, fostering industry partnerships, and inspiring the next generation of innovators. Committed to equity, innovation, and collaboration, the Center bridges the gap between education and workforce needs, empowering students, educators, and industry professionals to succeed in a rapidly changing technological landscape.

Key Highlights:

Strengthened Advisory Boards: Partnered with top-tier industry leaders to align educational programs with workforce demands, ensuring students develop relevant, in-demand skills.

Educator Externships: Partnered with Northern Agricultural and Energy Centers to launch the *Trades in Every Classroom* pilot, offering educators 32 hours of real-world industry experience to integrate workforce skills into classrooms. This initiative equips teachers to incorporate real-world skills into their classrooms, promoting equitable access to industry-relevant learning opportunities.

STEM Educator Workshops: Delivered workshops on cutting-edge topics such as generative AI and student engagement strategies, equipping educators with tools to effectively connect with diverse learners.

Siemens Teacher Training: Trained 15 educators in CAD software and provided 3D printers, enabling classrooms to prepare students for Industry 4.0 careers.

Explore Engineering Resources: Distributed engaging materials like card games and design challenges, increasing website downloads by 94% and impacting 15,000 students across 22 U.S. states and 8 counties, with Minnesota accounting for 53% of downloads.

Engineering Machine Design Contest (EMDC): Engaged 372 students across 62 teams, a 17% increase in participation. The contest introduced *Student Ambassadors* and a *Coach Resource Center* to enhance equity and foster inclusive engagement.

Lean Leader Lab: Created hands-on activities focused on teamwork, communication, and process improvement, aligning with industry standards and building essential soft skills in students.

Impact and Vision:

In FY24, the Center engaged 24,696 students and 1,042 educators, a 72% increase in student engagement. This was driven by improved SEO that expanded access to STEM resources, particularly for underrepresented communities.

Dedicated to equitable STEM education, the Center supports educators with innovative professional development opportunities and collaborates with industry partners to align education with workforce needs. By bridging gaps in access and opportunity, the Engineering COE continues to shape a dynamic future for Minnesota's students and workforce, ensuring the state's leadership in STEM fields.



HEALTHFORCE

HealthForce serves as a vital bridge between healthcare employers, educators, and government agencies, addressing workforce shortages and ensuring Minnesota's healthcare system remains robust and responsive.

Key Highlights:

Expanding Youth Engagement in Healthcare Careers:

Hosted 16 Scrubs Camps across the state, reaching over 600 middle and high school students from nearly 200 schools with immersive, hands-on healthcare career experiences.

Engaged over 2,000 high school students in career exploration events and interactive healthcare career fairs.

Advancing Workforce Training and Development:

Secured \$6.4 million in state and federal funding to train and test over 6,000 nursing assistants from 2020-2024.

Partnered with long-term care associations to revamp medication aide training and provide mental health first aid education.

Launched a Pre-Licensure Nursing Apprenticeship pilot program with \$740,000 in funding from DEED, enabling students to earn wages and benefits while completing clinical education.

Strengthening Higher Education Collaboration:

Co-created the Center for Nursing Equity and Excellence in partnership with the University of Minnesota's School of Nursing, aligning efforts across public and private educational institutions to address nursing workforce shortages.

Updated the online Health Care Core Curriculum for statewide high school use, offering college credit and early exposure to healthcare careers.

Building Strategic Partnerships:

Collaborated with 25+ leading healthcare employers, through the Healthcare Education Industry Partnership Council to identify workforce challenges and implement solutions.

Expanded partnerships with state agencies and community organizations to address systemic barriers and promote diversity in the healthcare workforce.

Promoting Diversity, Equity, and Inclusion (DEI):

Embedded DEI principles into the Pre-Licensure Nursing Apprenticeship pilot to cultivate a workforce reflective of Minnesota's diverse population.

Impact and Vision:

As the largest educator of nurses and allied medical professionals in the state, Minnesota State and HealthForce Minnesota are deeply invested in building a sustainable and innovative healthcare workforce. With 1 in 6 Minnesota jobs tied to healthcare, the Center's efforts are critical in addressing workforce shortages and adapting to an aging population, advancing technologies, and increasing diversity.

INFORMATION TECHNOLOGY

Mission

The mission of the Minnesota State IT Center of Excellence (ITCOE) is to provide training and opportunities to anyone interested in an IT or Computer Science career—"A Foot in the Door and a Seat at The Table."

The ITCOE partners with Minnesota State two-and four-year colleges, workforce development agencies, Tribal Nations, high schools, businesses, and other training partners. Together, we are expanding technical training options and IT career opportunities, empowering underserved and underemployed individuals to secure living-wage jobs as Broadband Technicians and Technical Support professionals.

Key Highlights:

The Tribal Broadband Connectivity Program, funded by the Federal Infrastructure Law, is injecting over \$3 billion into Tribal Nations to create and expand broadband options as part of their comprehensive "Internet for All" program. The Mille Lacs Tribal Nation has received \$14 million, with other Tribal Nations in Minnesota also securing funds. Rural Minnesota counties and towns, including New Ulm, Cloquet, and Bemidji, have similarly received federal funds and partnered with ITCOE to realize their vision.

Program Highlights

Non-Credit Training: Offered at Tribal campuses (White Earth, Red Lake, Cass) and in partnership with cities like New Ulm and Red Wing.

Soft Skills Training: Providing in-demand professional skills to Minnesota workers.

CTE Instructor and Faculty Training: Ensuring Minnesota State becomes the primary source of credit and non-credit broadband training for high school and workforce instructors.

Impact

The ITCOE Broadband and IT User Support Programs aim to create small IT ecosystems in rural Minnesota and with Tribal Nations, enabling local talent to secure living-wage jobs and fostering regional economic development.

2024 Student Impact numbers

4,500 high school students access to IT and CS content for the 1st time

1,500 students wrote their first line of AI code

3,800 college students accessed non-technical/soft skill trainings

700+ face-to-face connections

250+ career pathways and skill-building event participants



ADVANCED MANUFACTURING

The Minnesota State Advanced Manufacturing Center of Excellence leads the way in bridging the gap between manufacturers and employees. Through its flagship Minnesota Manufactured™ program, the Center engages industry, enhances educational and training opportunities for current and future manufacturing workers, and inspires students to explore career pathways in advanced manufacturing. By fostering collaboration between education and industry, the Center is building a skilled, resilient workforce to sustain and grow Minnesota's manufacturing sector.

Key Highlights:

High School Internship Program Launch (FY25):

Developed a robotics career pathway tool and coordinated STEM internships for Native American and rural high school students, offering paid opportunities and Manufacturing Skills Standards Council Certified Production Technician certification.

Drive for Five Workforce Initiative Implementation (2024-2025):

Secured \$750,000 in grant funding to train and place 56 adult learners in high-demand manufacturing careers through partnerships with seven Minnesota State colleges.

Minnesota Manufactured Statewide Tour Expansion (2023):

Engaged 2,643 K-12 students, 35 secondary schools, and 178 manufacturers through 299 facility tours, with over 35,000 students impacted since 2011.

2MTEC and Awards Banquet Integration (2025):

Unified the Minnesota Manufactured Technical Education Conference (2MTEC) with the Awards Banquet to strengthen collaboration and celebrate student and educator achievements in manufacturing.

Robotics and Automation Curriculum Development (FY25):

Launched a \$650,000 National Science Foundation/Advanced Technological Education-funded project to develop a national curriculum in robotics and automation, training the first cohort of lead teachers.

Minnesota Manufactured Campaign Growth (Ongoing):

Expanded outreach through career fairs, classroom presentations, and online resources, connecting students to manufacturing careers, internships, and scholarships.

Partnership Strengthening (FY25):

Collaborated with workforce centers, adult education providers, and manufacturing associations to support training and work-based learning initiatives.

Through these initiatives, the Minnesota State Advanced Manufacturing Center of Excellence ensures Minnesota remains a leader in advanced manufacturing education and workforce development, inspiring students, supporting employees, and addressing the evolving needs of the manufacturing industry.

TRANSPORTATION

The Transportation Center of Excellence (TCOE) drives workforce innovation through education and industry collaboration – and provides thought leadership on workforce development in the transportation industry.

Key Highlights:

Impact of Technology: Technological advancements, including electrification, autonomous systems, and connectivity, are reshaping careers in transportation. Automotive, truck, marine and powersports, aviation, and off-highway modes of transportation are adopting leading-edge innovations. The TCOE provides training and professional development in these technologies to help transportation programs stay up to date on technological advancements.

Addressing Access and Equity: Despite the opportunities, many Minnesotans lack awareness or access to high-quality transportation programs. Underserved populations—including inner-city, rural, Native, and BIPOC communities—face barriers to equitable educational and workforce opportunities. The TCOE attempts to close that gap through outreach activities that reached 35,000 prospective students and influencers across the state (2024) with hands on activities, information about college programs, and funding opportunities such as the North Star Promise.

Forward-Thinking Focus

Nitro-X Summer Camps are designed to engage students at the middle school level while bringing together industry and education to create a summer camp experience like none other. This camp explores careers in transportation through RC cars. Led by experienced instructors, campers build technical skills, teamwork, and employability skills. They'll paint their own RC car body, enjoy VIP industry tours, and cap off the week with an exciting race day to show off their driving skills!

Industry-Education Collaboration

Employers and industry associations often seek to support education and workforce development but may struggle with navigating partnerships. The TCOE bridges this gap by fostering collaboration, innovation, and making connections among stakeholders.

Over the past decade, the TCOE has demonstrated significant impact through their Supply and Demand Analysis, professional development opportunities, advisory committee meeting attendance, educator resources, grant writing, career exploration trailer, student workshops, Can I Borrow That? program, summer camps, TCOE Awards program, New Teacher Mentoring, industry partnerships, and more.



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