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MANUFACTURING IMPERATIVE

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# WORKFORCE PIPELINE CHALLENGE



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# PROGRESS REPORT

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WORKFORCE  
PIPELINE  
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# PROGRESS REPORT

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## A Letter from the President's Advisory Council Chair

WSU Tech and 24 of my technical community college colleagues committed to SME's Manufacturing Imperative-Workforce Pipeline Challenge (MI-WPC) earlier this year. Our commitment to this initiative will drive awareness, enrollment, and interest in manufacturing training programs and careers. The manufacturing industry is the backbone of our nation and is vital to our economic growth and our nation's security. It's crucial we continue to support our manufacturing industry through continued collaboration, shared resources, and constant communication to support their growing workforce needs. Our commitment to this initiative over the next 3 years will increase awareness and enrollment by 75,000 across 17 participating states, chipping away at a growing workforce gap.

This initiative will require our colleges to be creative in developing unique solutions and testing different strategies. As a higher education leader, it is clear we are facing a declining high school population; so, we must be willing to connect with all pockets of populations in our community. This includes low-income adults, underserved minorities, youth populations, and everyone in between. These populations each have unique barriers to accessing education and employment opportunities, which will require our technical and community colleges to connect with community-based organizations, local governments, and industry to bust these barriers.

This initiative has identified each college's strengths for further optimization, but also identified some national challenges which can be addressed by local and federal partners. This MI-WPC progress report highlights our college's best practices and shared difficulties identified over the last 5 months. Our technical and community college presidents and partners are committed to solve these big barriers to increase access to economic opportunities and prosperity for all.

Sincerely,



**Dr. Sheree Utash, Ed.D**  
President of WSU Tech  
Chair, MI-WPC President's Advisory Council

## A Letter from SME

As we usher in the unveiling of the Manufacturing Imperative – Workforce Pipeline Challenge (MI-WPC) Progress Report, it is my privilege to outline the transformative strides we are making in revitalizing the manufacturing sector through strategic educational partnerships. This initiative, born out of a collaboration between SME and a select group of community and technical colleges across the United States, stands as a testament to the power of united efforts in addressing critical workforce challenges in the manufacturing sector. With the goal of amplifying, accelerating, optimizing, and scaling what is currently being done at partner institutions, the SME team is creating a legacy for future success in training the manufacturing workforce across the nation that will extend beyond the original twenty-five partners in the not-so-distant future.

The MI-WPC, launched in early 2024, is not just an educational program; it is a beacon of innovation and dedication aimed at enhancing the skills and employability of manufacturing workers. Our goal is clear—to mold a robust pipeline of skilled professionals ready to enter and excel in the manufacturing industry. By the end of this three-year pilot program, we anticipate preparing over 75,000 individuals to join and enrich this vital sector.

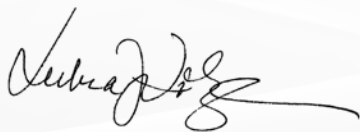
The progress encapsulated in this report reflects the collective commitment of all stakeholders involved. From the initial onboarding of participating colleges to the formulation of strategic advisory councils, each step has been geared towards fostering environments that enhance learning and skill development. Our advisory councils, including the Manufacturing Association Advisory Council (MAAC), President’s Advisory Council (PAC), and Champion’s Advisory Council (CAC), have been instrumental in guiding this initiative, addressing barriers, and shaping a forward-thinking approach to workforce development.

Moreover, our engagement with government entities and the deployment of additional data, tools, and resources underscores our integrated approach to building a future where manufacturing careers are not only accessible but also aspired to. As we move forward, the next steps involve deepening our insights into labor market trends and refining our strategies to ensure alignment with industry needs.

This progress report serves as a blueprint of what collaborative effort and commitment to innovation can achieve. It is with great anticipation that we share these developments, inviting you to join us in reshaping the future of manufacturing in America.

Together, we are not just filling jobs; we are creating a standard of advancing careers, enhancing lives through family sustaining wages, and driving national economic growth for future colleges.

Sincerely,



**Dr. Deb Volzer**  
Director of Government & Workforce Partnerships  
SME

# MI-WPC by the Numbers

**17** Participating States

**27** Participating Colleges

**25** College Visits

**52K+** Miles Traveled

**1,000+** Stakeholders  
Engaged

**28,000+** Data Points

**150** Hours of Data Analysis

**25** Reports & Strategic  
Plans Delivered

**7** Champions Meetings Held

**3** MAAC Meetings Held

**2** PAC Meetings Held

## Executive Summary

[SME](#), the national nonprofit committed to accelerating new manufacturing technology adoption and building North America's manufacturing talent and capabilities, announced a new initiative involving a partnership with community and technical colleges to address the urgency of revitalizing manufacturing's industrial base, growing the industry's talent pipeline, and enhancing the skills and productivity of manufacturing workers.

The [Manufacturing Imperative — Workforce Pipeline Challenge](#) (MI-WPC), announced in the fall of 2023 and launched in January 2024, combines the industry and workforce expertise of SME with the educational programs and innovations of a select group of U.S. community and technical colleges. The initiative builds awareness of careers in manufacturing, optimizes workforce systems, and accelerates the education and skill development needed to place individuals in jobs where they may earn family-sustaining wages.

The Workforce Pipeline Challenge is a three-year pilot program with a goal to attract 1,000 individuals annually at each of the initial [25 participating community and technical colleges](#). This will result in 75,000 or more qualified workers ready to pursue manufacturing careers, addressing the anticipated lack of talent for the 2.7 million person workforce shortage by 2030<sup>1</sup>. If the nation cannot solve this shortage, it is anticipated to have a \$4 trillion (about \$12,000 per person in the US) impact on the economy. Best practices identified throughout the program will be shared nationally to help other programs implement innovative solutions to grow local economies, reduce barriers to employment, and fill vacant manufacturing jobs.

Since the launch of MI-WPC and the onboarding of each of the 25 partner colleges, clear opportunities and shared challenges have emerged. Similar opportunities across the MI-WPC network include effective employer engagement strategies, employer validated curriculum, and expanding capacity through hiring additional qualified faculty. Shared challenges across the participating colleges include connecting with target populations and increasing interest in manufacturing career opportunities, connecting with all sizes of employers, and ensuring learning modalities are optimal for students. Understanding these common opportunities and challenges will help SME and the participating colleges identify best practices and begin to develop solutions to expand the capacity and development of the talent pipeline. Each college has localized tactics and strategies for working in their communities with varying levels of emphasis. Unpacking these tactics and sharing these strategies with peer institutions will support the expansion of programs and talent development.

SME is committed to this three-year initiative to increase career awareness, expand, and enhance talent development, and scale local strategies across the nation. SME has dedicated staff and resources to support this initiative which will amplify, optimize, and scale the college's current strategies.

<sup>1</sup> Deloitte, 2023 | <sup>2</sup> SME, 2024



## Onboarding the Participating Colleges

An in-person, on-campus kick-off meeting at each college was held for the Manufacturing Imperative — Workforce Pipeline Challenge (MI-WPC). This meeting was organized to unite SME leadership with key stakeholders from the college's leadership with local industry and community partners.

During these half-day sessions, participants were given a program overview, program goals and outcomes, and briefed on the expectations and responsibilities of each respective college. The meeting also outlined the responsibilities and support each college should anticipate and expect from the SME team. The engagement was designed to be interactive and stimulating, allowing participants from each college and community to brainstorm challenges faced in the supply chain for manufacturing STEM-related programs. Topics of discussion focused on engagements with local industry, community-based organizations, K-12 partners, local chambers, and economic development leaders. Attendees also explored existing efforts that cultivate and grow a diverse and highly skilled talent pool via an industry question and answer session.

This meeting's purpose was to begin devising strategies that address identified challenges locally. While devising these strategies, SME aimed to accelerate, amplify, optimize, and scale the excellent work already underway at each college. The end goal was to capture hidden growth opportunities that support the securing of living-wage jobs and careers, and to fill open positions in manufacturing within the local community. This information will be leveraged to help the colleges and stakeholders nationwide to close the skill gaps.

These 25 on-campus visits engaged over 1,000 community influencers and stakeholders across the colleges. This resulted in thousands of sticky notes identifying both unique challenges and opportunities facing each college and community. Shared challenges and opportunities were identified across the participating colleges as well. These common challenges and identified opportunities are shared throughout this report.



# Identified Opportunities

## **Strengthening Employer Engagement**

All the participating colleges recognized an opportunity to increase employer engagement in their communities. It was clear that strong partnerships were developed with some or certain employers at some of the community colleges. In fact, if the college had a partnership with a large employer such as a large Original Equipment Manufacturer (OEM), the small- to medium-sized manufacturers in the area often felt forgotten. Strengthening partnerships with additional employers of all sizes was seen as an opportunity to train and upskill an incumbent workforce as well as build a stronger supply chain and sustainable workforce for future generations. Building these partnerships presents some challenges for both the college and the employer, as they tend to lack time for a meaningful engagement. Developing employer councils or making effective use of active industry advisory councils was seen as a best practice. Some colleges dedicate a single contact or staff member to employer engagement. This was recognized as a best practice, as it is easier for the industry partner to connect with a single college contact over navigating a college system.

## **Industry validation of curriculum and certificates**

Industry engagement is vital to the success of the college and the graduates. Effective partnerships with industry in the community ensure learners can more easily enter the workforce while also offering the college line of sight to hiring needs and trends. A related opportunity seen across all participating colleges was to ensure industry alignment with course offerings. Industry alignment accounts for today's needs, but also tomorrow's workforce needs to ensure students are fully prepared with the necessary skillsets to be successful. This requires time and dedication from local employers to validate the curriculum. It is recommended the curriculum and content is reviewed often as technology, equipment, and skillsets are constantly changing.

Ensuring that the available industry certifications are valuable is crucially connected to validating the course offerings with employers. It is important to understand from manufacturing employers whether completing an industry certification enables upward mobility for their employees through wage increases or promotion opportunities. SME discovered a misalignment between student expectations from the college's perspective and the industry partner. While the college prefers students to complete the certification, not all employers understand or value the credential.

## **Expanding Capacity through Faculty**

Another commonly offered opportunity is to increase capacity at the colleges. This typically involves focusing on the quality and availability of faculty. It was quickly identified that keeping up with changes in technology and equipment strained the current faculty. Some solutions offered included close collaboration with industry partners to borrow employees to teach at the college through a faculty on loan program or for industry to financially supplement faculty pay. Often, the industry offers higher salaries than the college, making it difficult to attract qualified faculty members. Another solution to keeping up with faculty training is for faculty to be trained at the manufacturing employer's location by the industry partner. This ensures that students receive the most up-to-date training and knowledge to be well-prepared to enter the workforce.



## Challenges

### **Missing Target Populations and a Lack of Awareness and Interest in Manufacturing Careers**

The participating colleges quickly identified missing target populations in the classroom and within the manufacturing industry. The specific target populations varied by college depending on the demographics of the local community. Some colleges emphasized the need to connect with immigrants, refugees, and Hispanic populations, while others prioritized justice-involved individuals, the underemployed, and historically resilient populations. Immigrants, refugees, and non-English speaking individuals are often left out of the conversation but are seen as a viable and vital source to fill manufacturing talent gaps.

The colleges also recognized that mass communication does not always reach these target populations. Specific nontraditional demographics were not reached because marketing materials were not in Spanish or another language, or simply the target populations did not see the marketing ad. The colleges identified solutions to remedy this including developing marketing in multiple languages and working with specific community-based organizations to reach these target populations.

### **Best Practice**

Some colleges are leveraging English as a Second Language (ESL) courses with manufacturing and STEM based programs to engage non-English speaking individuals. This allows students not only to learn English, but also a manufacturing skillset. The English practices in the classroom emphasize manufacturing related terms and workplace English.

In addition to identifying target populations for outreach, the colleges also identified the barriers these individuals could be facing to accessing training, education, and employment. These barriers could include childcare, transportation, access to the internet, or past behaviors limiting their employment or mobility, such as having a criminal history. It was recommended for the college and community-based organizations to be aware of potential barriers students could face to develop solutions.

The colleges also identified the lack of interest in manufacturing careers. Several culprits were hypothesized including parents discouraging this career path, lack of marketing and awareness overall, high school counselors encouraging 4-year degree pathways over skill-based 2-year pathways. Further the negative manufacturing perception compounds this problem with the perception of “dark, dirty, dangerous, and dead-end.” Manufacturing is also seen as low wage, low skill, filled with volatility, and limited upward mobility. Efforts underway at the college, in the community, and within local employers to mitigate this negative perception are showing limited impact. SME sees an opportunity to fill this gap by providing the college and its partners access to marketing content designed to mitigate the negative manufacturing perception while growing the workforce talent pipeline.

Not only is awareness a top issue, but it was noted that students also lack motivation to pursue manufacturing programs and careers. Employers often complained that the younger workforce does not want to work long hours, have been concerned about Paid Time Off (PTO) and benefits, and are seeking a career with work-life balance. Employers also shared the upcoming workforce does not have the necessary executive functioning or soft skills to be productive in the workforce. These skills often mentioned included: showing up to work on time, teamwork, basic communication, and problem-solving skills. Employers shared with the colleges, the upcoming workforce needs training to develop and hone these skills, as the hard technical skills are often acquired with the employer. SME sees an opportunity to create communication channels between the employers and the college to begin to resolve this challenge cohesively. It is important the potential student has access to industry insights through tours, career awareness, and overall career pathways. It is equally important the manufacturing employers connect with the expectations of their future talent; this could include adjusting company policies or work schedules to access available talent.





## Employer engagement & verification of programs

Both the college and industry partners shared the difficulty in creating meaningful relationships to develop the workforce pipeline. The barriers in creating these relationships include the lack of time, commitment, and understanding of each partner's expertise and role in the talent pipeline development process. This misalignment of vision and understanding combined with limited time constraints strains the process of talent development overall. It was identified it is difficult to navigate each community college's process or points of contact and equally frustrating to find the right employer contact to collaborate on initiatives.

The colleges recognize that programs should be verified and validated by employers to ensure they meet workforce needs. Some colleges identified that each employer requires different skills, making it challenging to scale programs and keep up with changing needs. Some colleges offer robust, nimble, customized training programs as a solution; however, this is difficult to scale across small and medium-sized employers with lower hiring needs thresholds. Employers typically do not favor the cohort-based approach to training due to concerns about sharing intellectual property or information with local competition.

Employers are already running their operations below capacity and cannot dedicate additional time to communicate with the community college. Most employers do not have the staff available to loan to the community college for faculty or training purposes, which would help ensure capacity building. Many of the larger manufacturing employers in the area have some capacity to offer faculty expertise to the college; however, the smaller employers are typically operating understaffed.

What we have observed is limited engagement from employers in each local community with the college. For instance, at the MI-WPC launch event for one college only 12 out of their 900 manufacturers attended. Most of the participating colleges have strong partnerships with a handful of employers in their community. These partnerships could include apprenticeship development, curriculum development, sharing equipment and resources, or customized training. Deepening these partnerships and expanding them to include small to medium-sized manufacturers will help expand the talent pipeline.

## Modality Alignment for the Student

Across all participating MI-WPC colleges, a common challenge was the limited alignment with students in terms of modality. It is common for today's students to be working or caring for family members. This limits their ability to attend classes on campus during the hours of 9 AM-5 PM. During the MI-WPC onboarding events, it was commonly mentioned that the current course offerings are missing incumbent workers, third-shift workers, and career-changing adults for upskilling opportunities. These students could benefit from online courses, hybrid courses, or courses offered during off-hours for certificate completion and upskilling.

Some students are unable to take advantage of training, even if it is free, because they must financially support their families. For these students, earning a salary will always come first. They could benefit from earn-and-learn programs such as apprenticeships or work-based learning. This solution allows students to receive in-demand training while getting paid a full-time wage and working for the employer.

Students may also face other difficult barriers to accessing training and education, such as childcare, transportation, or access to reliable internet. Childcare is extremely challenging to access due to limited availability and skyrocketing costs. In some communities, transportation is a massive barrier to training and employment opportunities. If possible, the college could offer courses at multiple locations to accommodate students. It is recommended to partner with community-based organizations and other state or local resources to mitigate these barriers. Solutions could include childcare vouchers, offering childcare services at the employer's location at a discount, offering training near a bus stop location, or accommodating course and employment times around public transportation.



It is important to meet students where they are from both the employer and the college's perspective. Accommodating students could include leveraging Tooling U-SME eLearning or virtual reality labs to supplement time in the classroom, adding training locations and offering open labs. Combining several of these solutions could expand capacity and reach target populations to strengthen the workforce talent pipeline. Earn-and-learn solutions such as apprenticeship programs, paid internships, and work-based learning programs are attractive to students, especially those who must earn a wage to provide for their families.

Related to program alignment, employers did not understand nor appreciate the value of credentials, certificates, and badges. Common complaints were the lack of transparency on the development of the certificate or badge, misalignment and needed skillset, and the credential overall was not necessary to complete accessing employment opportunities the job. The college participants often mentioned the lack of wage increases or promotions from completing the credential. This misalignment is severely hurting the student financially in many cases, but also wasting adding to the student's time spent in the classroom. Related to the program and certificate of completion is students leaving programs prior to completion or graduation. Often, students are hired or poached by employers prior to completing the program. While this has a positive impact for the students and their families, this tends to hurt the college's completion rates resulting in a possible fiscal impact through state funding models.



# Councils Guiding Our Work

In support of the MI-WPC efforts, three councils were created at various levels of leadership and expertise to guide our work. These councils are designed to share best practices with one another, identify challenges and develop bold solutions to complicated problems. These councils include a Manufacturing Association Advisory Council, President's Advisory Council, and Champion's Advisory Council. These councils are designed to tackle big and small barriers to accessing training, education, and manufacturing career opportunities. By sharing their expertise with one another, our councils cross-pollinate ideas to strengthen approaches and increase attraction to STEM and manufacturing programs and careers.





# Manufacturing Association Advisory Council (MAAC)

The MAAC is designed to be representative of each state's participating MI-WPC college(s). This council brings the voice of small- and medium-sized manufacturers to this effort. These manufacturers are very busy and tend to rely on their state or local associations to share challenges and solutions.

To date, the MAAC has met three times to discuss updates on the launch of the MI-WPC schools, engaging local community colleges, and pipeline development. The MAAC meets six times annually to discuss identified themes collected across the participating MI-WPC colleges and key discussion topics. Members have created a list of topics for future discussion, including industry engagement, mitigating the negative perception of manufacturing, and investments in career awareness activities.

During the first meeting, each MAAC member shared their focused priorities and approaches to workforce pipeline development. This included a request to analyze all 16 states' approach to workforce development. The following themes resulted from this analysis:

1. Collaboration and coordination are necessary for successful approaches to workforce development. There are several partners, state and local agencies, and community-based organizations competing for the same target populations and resources. This competition strains the overall workforce system and creates confusion among target populations, stakeholders, and employers.
2. Supporting quality jobs leading to family sustaining wages was seen as a priority among state leadership. States are looking for employer partnerships and investments that lead to family-sustaining wages. These critical investments could include tax incentives, workforce training support, and more.
3. Addressing critical barriers is necessary to increase labor force participation rates and offer an inclusive economy for all. Populations left out of conversations are often facing difficult barriers to access employment and training. These barriers must be addressed to solve the labor shortage and increase access to family sustaining wages for all.

This analysis brought awareness of common state strategies to the MAAC that they share with their local members. These themes further emphasize what each college is facing in their local communities. These are also common themes heard across each MI-WPC onboarding event.

During the May meeting, MAAC members discussed their current partnerships with their local community colleges. Overall, the results were mixed. Some local employers had strong partnerships with their local community colleges in accessing quality training and education, while others struggled to navigate the complex community college system. There is a clear opportunity to strengthen partnerships with local community colleges, while lifting some fog on what the college can offer local employers.

The MAAC's next meeting will be held in July 2024.

## MAAC Membership

- **Manufacture Alabama**  
Robin Ricks
- **Illinois Manufacturers Association**  
Mark Denzler
- **Michigan Manufacturers Association**  
Bill Rayl
- **Missouri Association of Manufacturers**  
Michael Eaton (Chair)
- **Manufacturers Alliance of New York**  
Mike Frame
- **North Carolina Manufacturers Alliance**  
Jimmy Carter
- **Ohio Manufacturing Association**  
Kenneth Poland
- **Thomas P. Miller Associates (ad hoc member) (OH)**  
Sara Tracey
- **South Carolina Manufacturers Alliance**  
Elisabeth Kovacs
- **Tennessee Association of Manufacturers**  
Bradley Jackson
- **Dallas County Manufacturers Association (TX)**  
Paul Mayer
- **Virginia Manufacturers Association**  
Brett Vassey



## President's Advisory Council (PAC)

PAC is representative of each of the participating community college presidents. This group has met twice and plans to meet quarterly to discuss top themes and challenges facing the participating MI-WPC colleges. Among these discussed themes include employer engagement, which was discussed in April. This was a common discussion at each of the colleges during the MI-WPC onboarding events. When brought to the PAC the president's shared the complexities building strong partnerships with the employers. The presidents emphasized the importance of connecting with the voice of the employer to meet their critical workforce needs. However, it is challenging to engage employers in conversations on their future needs versus today's workforce needs. The colleges are committed to building programs to meet future workforce needs while still providing today's manufacturing skillsets.

Funding was another commonly discussed topic at each of the colleges. Funding is necessary to support growing equipment costs, space, and overall student's certificates. In addition to solving complex challenges, PAC will also be identifying grants and funding opportunities to collaboratively attack to support the growth of their manufacturing programs.

The PAC's next meeting will be held in July 2024.

### PAC Membership

- **Calhoun Community College (AL)**  
Dr. Jimmy Hodges
- **Wallace State Community College (AL)**  
Dr. Vicki Karolewics
- **City Colleges of Chicago-Richard J. Daley (IL)**  
Dr. Janine E. Janosky
- **City Colleges of Chicago Wilbur Wright (IL)**
- **College of Lake County (IL)**  
Dr. Lori Suddick
- **WSU Tech (KS)**  
Dr. Sheree Utash (Chair)
- **Grand Rapid Community College (MI)**  
Dr. Charles Lepper
- **Schoolcraft College (MI)**  
Dr. Glenn Cerny
- **South Central College (MN)**  
Dr. Annette Parker
- **St. Charles Community College (MO)**  
Dr. Barbara Kavalier
- **St. Louis Community College (MO)**  
Dr. Jeff Pittman
- **Flathead Valley Community College (MT)**  
Dr. Jane Karas
- **Wake Tech (NC)**  
Dr. Scott Ralls
- **Mohawk Valley Community College (NY)**  
Dr. Randall VanWagoner
- **Columbus State Community College (OH)**  
Dr. David Harrison
- **Lorain County Community College (OH)**  
Dr. Marcia Ballinger
- **Tulsa Community College (OK)**  
Dr. Leigh B. Goodson
- **Greenville Technical College (SC)**  
Dr. Keith Miller
- **Motlow State Community College (TN)**  
Dr. Michael Torrence
- **Pellissippi State Community College (TN)**  
Dr. Anthony Wise
- **Dallas College System (TX)**  
Dr. Justin Lonon
- **Tyler Junior College (TX)**  
Dr. Juan E. Mejia
- **Patrick & Henry Community College (VA)**  
Dr. Greg Hodges
- **Edmonds College (WA)**  
Dr. Amit Singh
- **Gateway Technical College (WI)**  
Dr. Ritu Raju

## Champion's Advisory Council (CAC)

The CAC is made up of each of the participating MI-WPC college's experts. CAC members are leading the MI-WPC work at each of the colleges, ensuring all stakeholders at the college have the right information to push programs forward. CAC members participate in monthly meetings to share successes and challenges that each college champion is facing. These monthly meetings are designed to ensure the MI-WPC initiative is moving forward, key questions are answered, and barriers are identified. This is an opportunity for the CAC members to tackle some challenges and develop collaborative innovative solutions across all participating colleges.

Some of the colleges are participating in the same federal grants such as Build Back Better or Good Jobs Challenge grants. This is an opportunity to share best practices and challenges among each of the MI-WPC schools on these grants, as many of the awarded grants have a manufacturing workforce focus.

CAC also has the chance to learn from one another on a wide variety of topics. For example, one of the CAC meetings shared successful recruitment tactics into non-credit programs, degree programs, and even community based 2-hour programs.

The CAC's next meeting will be held in August 2024.

### CAC Membership

- **Calhoun Community College (AL)**  
Tad Montgomery
- **Wallace State Community College (AL)**  
Jerry Murcks
- **City Colleges of Chicago-Richard J. Daley (IL)**  
David Girzadas
- **College of Lake County (IL)**  
Richard Ammon
- **Wilbur Wright (IL)**  
Billy McFarland
- **WSU Tech (KS)**  
Scott Lucas
- **Grand Rapid Community College (MI)**  
Julie Parks
- **Schoolcraft College (MI)**  
Robert Leadley
- **South Central College (MN)**  
Kelcey Woods-Nord
- **St. Charles Community College (MO)**  
Amanda Sizemore
- **St. Louis Community College (MO)**  
Becky Epps
- **Flathead Valley Community College (MT)**  
Lisa Banks
- **Wake Tech (NC)**  
Albert Brewer
- **Mohawk Valley Community College (NY)**  
Cory Albrecht
- **Columbus State Community College (OH)**  
Jeff Spain
- **Lorain County Community College (OH)**  
Terri Burgess Sandu
- **Tulsa Community College (OK)**  
Christine Allison
- **Greenville Technical College (SC)**  
Kelvin L. Byrd
- **Motlow State Community College (TN)**  
Eric Reynolds
- **Pellissippi State Community College (TN)**  
Patty Weaver
- **Dallas College System (TX) (Cedar Valley & Eastfield)**  
Eddie Tealer & Greg Morris
- **Tyler Junior College (TX)**  
Deana Sheppard
- **Patrick & Henry Community College (VA)**  
Rhonda Hodges
- **Edmonds College (WA)**  
Mel Cossette
- **Gateway Technical College (WI)**  
Chris Perez

## Federal and State Government Engagement

The launch of the Manufacturing Imperative-Workforce Pipeline Challenge (MI-WPC) has caught the attention of the White House—Executive Office of the President. In October, the White House announced the launch of their Manufacturing Sprint effort which shares best practices and brings together key stakeholders to help fill a growing manufacturing workforce gap. In January, SME and the participating college's MI-WPC efforts were highlighted by the White House in their press release. In support of the Manufacturing Sprint, MI-WPC's President's Advisory Council (PAC) and Manufacturing Association Advisory Council (MAAC) members submitted a letter of commitment to the White House's manufacturing efforts. Ongoing engagement continues with the White House, the Department of Education, and the Department of Labor on this initiative.

Throughout the MI-WPC initiative, federal policies and funding opportunities will be identified as barriers or opportunities. When these barriers are encountered SME will be engaging the right federal partners to share the challenges our participating colleges are facing and identify any workable solutions or waivers to resolve the barrier.

Outside of federal engagement, each of the participating state's Governors received a letter from SME sharing the commitment from the state's participating colleges. This is an opportunity for the Governors to leverage MI-WPC efforts to enhance their economic development strategies and increase business attraction with prospective manufacturers. This workforce pipeline development is attractive to incoming businesses but also important to keep current talent within the state. Continued engagement with Governor's Offices, state economic development leaders, and workforce leaders will ensure success of the MI-WPC initiative and the success of the state. Some potential state level engagement on this initiative could include requesting waivers to test new strategies such as engaging new populations into college enrollment or employment opportunities or braiding federal workforce funds to achieve similar goals across the state or local community.

Staying connected with federal and state leaders throughout this initiative will not only shine light on opportunities to enhance current manufacturing workforce strategies, but also help us to tackle challenges at scale.





## Deployment of Additional Data, Tools, & Resources

To create a pipeline of 1,000 students annually at each participating college, it is important that up to date research, data, and additional tools are leveraged to achieve our goals. Colleges' staff are running at capacity, so leveraging additional tools and resources to create efficiencies will be necessary to expand the workforce pipeline.

We are currently exploring the combination of key labor market insights, target population data tools, effective marketing content and ads, and artificial intelligence-enhanced engagement. This approach aims to improve efficiency and deepen our understanding to better support the colleges.

In addition, SME will leverage its close partnerships with national manufacturers to gather workforce specific feedback. This feedback will confirm or better guide each college when compared to Lightcast data or labor market analysis tools. Using key labor market insights with industry feedback for each local community will help ensure better alignment with program and workforce pipeline development. These labor market trends could include the number of job openings, necessary skill sets, and top employers in the area. This data will help determine the local talent needed to fill gaps and the skills needed in each program to ensure the talent is ready to enter the workforce.

Identifying target populations for pipeline development was identified as a top five need for each of the 25 participating colleges. The work of the imperative is to deploy innovative ways of engaging and attracting millions, understanding there are likely tens of millions of individuals across the country who have interest in education and training. While this number is a national statistic, it emphasizes the opportunity for our participating colleges to better engage likely missed local populations. Many colleges have strong partnerships with K-12 systems but struggle to find other underserved populations such as those between the ages of 18-24, minority populations, and disabled workers (among others). To help the colleges better identify these targeted sectors, SME will work with the colleges using a population segment tool to identify individuals interested in pursuing training and education. This tool will help the colleges better target their communication and specific marketing tactics towards interested populations.

The colleges also identified dedicated manufacturing marketing content as a top need. The manufacturing specific marketing content would increase career awareness, mitigate the negative perception of manufacturing, and share the benefits of pursuing a career in manufacturing. Most colleges' marketing teams were identified as small and with limited capacity. Nearly all the current college marketing strategies observed highlighted an overall brand awareness of the college versus program or industry specific content.

SME's expertise in media, marketing, and manufacturing can offer support in marketing content. In the conversations with the colleges and employers it became clear that industry awareness was missing. The colleges did an excellent job sharing the specific certificates, programs, and course pathways within manufacturing and STEM. However, these communication vehicles mostly connected with students who knew what those certifications and programs were already (such as welding) and often lacked clarity regarding the career pathways. One example often given among the colleges is students do not know what a CNC machinist does. This created an opportunity to develop overall manufacturing awareness to bridge interest gaps and grow student enrollment, talent pipeline development and career interest.

The colleges also shared their difficulties in connecting with interested students, either because the staff are overwhelmed with other duties or unable to connect with interested students on their time. To help provide additional support and insight to the student, an AI (Artificial Intelligence) enhanced communication tool will be tested. This AI tool will connect students with key information, answer common questions, and connect the student with the college staff when ready. Further, the AI tool can gather valuable information from the student, such as any barriers they face when pursuing training and education at the college. This allows the college to mitigate and address these barriers to expand the talent pipeline.

These tools and strategies working together will ensure alignment with industry demand and that target populations are reached via marketing and social media ads. Connecting target populations to effective training and education in manufacturing will help fill labor shortages in manufacturing.

## Next Steps

The MI-WPC efforts focused the first half of 2024 on launching all the colleges, gathering key insights from each community, and developing unique strategic plans for each participating college. For the second half of the calendar year, SME will focus on gathering labor market information and developing manufacturing specific marketing content to support each college's developed goals.

For each participating college, SME is committed to delivering the following:

- Research and strategic reports such as key labor market data, key insights and reports from design thinking sessions, and access to target population data.
- A unique strategic plan for pipeline development that aligns with each college's current strategic plan.
- Access to marketing materials, key data tools, and AI enhanced engagement tools.
- Access to Tooling U-SME curriculum to augment or build net new programs, expand current programs, and test new approaches to learning.
- Access to national manufacturing workforce insights and trends from national employers.
- A dedicated SME support team with access to key SME advisory members on specific topic areas.
- Promotion of the colleges, their work and impacts through SME established media channels (events, publications, marketing vehicles).
- And a platform for engagement across the participating community colleges through the Manufacturing Association Advisory Council (MAAC), President's Advisory Council (PAC), and Champion's Advisory Council (CAC).

In addition to supporting each college's specific goals and initiatives connected to their local manufacturing needs, SME will also be developing an employer engagement playbook which will be released later this year. SME will be delivering its first MI-WPC impact report in January 2025, sharing additional insights, key metrics, and best practices identified throughout the first year of the initiative. This is just the start, stay tuned for additional sharing of insights, promising solutions and recommendations learned throughout this 3-year collaboration.



# Appendix

List of participating colleges:

- Calhoun Community College (AL)
- Wallace State Community College (AL)
- City Colleges of Chicago-Richard J. Daley (IL)
- College of Lake County (IL)
- Wilbur Wright College (IL)
- WSU Tech (KS)
- Grand Rapid Community College (MI)
- Schoolcraft College (MI)
- South Central College (MN)
- St. Charles Community College (MO)
- St. Louis Community College (MO)
- Flathead Valley Community College (MT)
- Wake Tech (NC)
- Mohawk Valley Community College (NY)
- Columbus State Community College (OH)
- Lorain County Community College (OH)
- Tulsa Community College (OK)
- Greenville Technical College (SC)
- Motlow State Community College (TN)
- Pellissippi State Community College (TN)
- Dallas College System (Eastfield and Cedar Valley) (TX)
- Tyler Junior College (TX)
- Patrick & Henry Community College (VA)
- Edmonds College (WA)
- Gateway Technical College (WI)

## Busting Barriers to Connect with Interested Students

In each of the onboarding events, the attendees participated in a barrier busting activity where they collaborated with others at their table. The goal of this activity was to identify one strategy that could be implemented today if given hypothetical, unlimited access to necessary resources. Many of the attendees highlighted tactical and actionable strategies during this event. These ideas were categorized into three themes, including career awareness, accessing additional populations, and strengthening capacity. As part of this initiative, SME is dedicated to the continuous pursuit of solutions to barriers facing our nation's workforce promoting and developing best practices mitigating these and other mitigating barriers.

Here are some of the highlights and identification of the barriers discussed:

### Career Awareness Approaches

- **Limited manufacturing career awareness for high school teachers and counselors:** Motlow State Community College attendees shared the frustration of the limited knowledge and awareness of manufacturing careers, especially among those in the K-12 system influencing young talent's career choices. The limited awareness of these careers coupled with the negative perception of manufacturing makes it difficult to create a viable talent pipeline.
- **High School students have limited career awareness:** Gateway Technical College highlighted the limited manufacturing career awareness among high school students. This is contributing to the low enrollment in manufacturing and STEM programs at the college and limits the talent pool for manufacturing employers.
- **It is difficult to see a clear career pathway in manufacturing:** Wake Technical College attendees identified that the next generation of talent need to see the pathway of their careers. While there are some resources available that map out career pathways, it is not as transparent and readily available regarding the manufacturing careers' required education for specific vocations.
- **Elementary aged students do not have access to or exposure to manufacturing or career technical education programs:** WSU Tech highlighted the limited career exposure to elementary aged students in manufacturing. This is a prime age to connect with students to begin career awareness and exposure activities.
- **Policies restrict the age of individuals touring the manufacturing facilities:** South Central Community College shared that those under the age of 18 cannot participate in industry tours as a career exposure activity. It is difficult for a student to determine if a career in manufacturing without exposure to the industry.



### Accessing Additional Populations:

- **Removing barriers to accessing undocumented worker talent:** Motlow State Community College attendees shared the untapped talent pool of undocumented workers who are unable to access post-secondary education and employment opportunities. This population can access the K-12 system, but they are severely restricted beyond high school. Connecting with this population could expand the talent pool for employers and increase enrollment for local community colleges.
- **Background checks eliminate potential qualified talent:** Dallas College System attendees shared that various talent pools are left out of training and employment opportunities. This is limiting access to a viable talent pool to expand the workforce pipeline.

### Strengthening Capacity:

- **Not enough faculty to support the necessary capacity for each college:** All the colleges expressed frustration with attracting quality faculty members with the right training and education to prepare the next generation for entering manufacturing careers. Colleges are unable to compete with industry salaries to attract the right faculty.
- **Manufacturing equipment is expensive and difficult to keep up with the rapid pace of changing technology:** Edmonds College attendees discussed the rapid pace of changing technology in manufacturing and how the college must keep up to effectively train students. Further, the equipment is costly, and the colleges must rely on grants and other sources of funding to support this growing cost.

## Contact Us

Our Progress Report is reflective of the first five months of the Manufacturing Imperative — Workforce Pipeline Challenge, sharing common challenges and unique opportunities.

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Established in 1932 as a nonprofit organization, SME represents the entire North American manufacturing industry, including manufacturers, academia, professionals, students, and the communities in which they operate. Together we share one common belief: Manufacturing holds the key to economic growth and prosperity. SME accelerates new technology adoption and inspires and builds North America's talent and capabilities to advance manufacturing as a diverse, thriving and valued ecosystem that drives competitiveness, resiliency, and national security. We believe in technology's power and humanity's innovation to advance our society and meet many national challenges. We design new ways to understand and solve problems, and our solutions advance the next wave of innovation and growth. Learn more at [SME.org](http://SME.org).