

Strategic Positioning of MEP Centers in Providing Workforce Services

An Assessment and Guide to Center Decision Making – Working Paper



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Executive Summary

Small Manufacturing Enterprises (SMEs) fuel the U.S. economy. They contribute to the nation's capacity for innovation and provide the agility needed for rapidly changing global supply chain requirements, taking essential operational risks to introduce new processes and products. The vital role of SMEs, however, depends on a strong manufacturing workforce and solutions to the acute challenges that SMEs face in finding, retaining, and skilling up workers.

MEP Centers are well positioned to provide a range of urgent workforce services and to facilitate more effective, longer term talent development systems that will benefit SMEs and the industry at large. Current offerings and emerging initiatives match well with the priorities of federal and state agencies and industry leaders, and there are several existing programs that could be scaled up nationwide. However, new partnerships will be necessary, especially with community colleges and workforce boards, to ensure improvements are sustainable.

Workforce Opportunities and Challenges

MEP Center leaders have tools, knowledge, and experience vital to fulfilling SME workforce needs and supporting SME growth and innovation. However, further service expansion will need to address system and government barriers. These historical challenges have led many Centers to focus more on activities that offer clearly defined and more immediate ROI for individual businesses and less on longer term investments that would benefit manufacturers at large, like early career development programs.

National Network Trends in Workforce Services

Centers have increased workforce service delivery since 1989 and nearly all MEP Centers support incumbent worker training or customized training for companies with technical services that include adult apprenticeships. Emerging areas include DEI consulting and women-focused programs. The technical themes for the training that Centers would most like to offer are Industry 4.0, supply chain, and automation training.

These areas of specialization and interest, combined with well-honed knowledge and experience increasing business performance for manufacturers, uniquely position MEP Centers to advance workforce solutions that are urgent as well as solutions that are needed to support the industry and manufacturing communities in the long term.

Potential Partnerships and Funding

MEP Centers are well-positioned to expand on current workforce programming in collaboration with employers, federal programs, state agencies, and philanthropic organizations.

Spending on higher education, training and other workforce development activities is \$2 trillion annually. U.S. employers, primarily large employers, are estimated to spend more than \$500 billion a year on internal training, training consultants and vendors, and on wages paid to employees while training. State spending on education and training seems small compared to spending by businesses and higher education, about \$55 billion in previous years. Federally administered workforce development programs have been about \$16 billion a year including \$3.9 billion with [the U.S. Department of Labor](#), \$2 billion with the Department of Education and \$1.1 billion with Title I state formula grant funds. States also contribute billions to workforce development (excluding federal WIOA, DOL competitive grants) and

fund a variety of workforce programs in partnership with industry. Notably, however, only about 0.1% of state workforce training is dedicated to manufacturing-specific programming in recent years.

Examples of MEP in Action

MEP Center leaders have described populations they would like to collaborate with in the future, including immigrants, formerly incarcerated persons, displaced workers, workers with special needs, and veterans, suggesting a number of important connections to ongoing and emerging initiatives.

CREC selected four cases to illustrate how public funding, partnerships, and MEP expertise are combined to improve workforce services to SMEs. All four cases (from Florida, New Jersey, Hawaii, South Carolina) were identified as having a “macro” focus on industry- or sector-wide challenges. These cases best illustrate increases in partnerships, funding, and resources for SMEs.

Guide for Center Decision Making

Leveraging partnerships and the MEP Network, Centers should:

1. Assess to what extent the workforce system is serving SMEs;
2. Define areas of unmet need where MEP Centers can provide unique expertise;
3. Adapt leading practices from the MEP National Network to fill gaps in the SME talent pipeline;
4. Identify viable funding sources to support the effort; and
5. Determine metrics to evaluate progress.

I. Background – U.S. Manufacturing, SME Workforce Challenges, the role of MEP National Network

Over the past decade, U.S. manufacturers have increased jobs and exports, generating about \$2.7 trillion in economic activity and \$1.9 trillion for export in 2021. U.S. manufacturers represented more than 70 percent of total export sales, according to the U.S. Bureau of Economic Analysis, and 58 percent of all business R&D investment, according to the U.S. National Center on Science and Engineering Statistics. But only a few sectors have contributed to this growth while output in most has declined. Scholars and industry leaders point to low productivity, low wages, and disappointing growth overall as signs of ineffective and underfunded technology deployment and reduced competitiveness in global markets.¹ Practitioners point to urgent deficits in cybersecurity, affordable support services for manufacturers, and technical talent at smaller enterprises.²

Small Manufacturing Enterprises (SMEs) are critical to sustaining this economic activity as well as to addressing deficits in innovation and technology deployment. Nearly 97 percent of manufacturing establishments employ fewer than 250 employees, according to the U.S. Census Bureau. These SMEs employ about half of the manufacturing workforce. While these smaller companies often lag larger companies in technology upgrading, they have the potential to integrate new technology alongside older machines and improve manufacturing processes. And SMEs are important contributors to upskilling technical talent in manufacturing communities nationwide.

Throughout the COVID-19 crisis, SMEs demonstrated how they help the U.S. to compete on a global scale by responding nimbly to supply chain disruptions and introducing innovations in processes and products.³ With improved technology deployment and productivity, SMEs could vastly strengthen domestic supply chains and increase our national security, getting goods to market more quickly when there are shifts in demand (and supply) and minimizing disruptions from cyber threats through advanced preparation. Their ability to innovate and adopt the latest technology will be vital for sustaining vibrant and diverse manufacturing sectors in the next decade,⁴ addressing supply chain

¹ The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth*. June 2021; Ezell, Stephen. *Policy Recommendations to Stimulate U.S. Manufacturing Innovation*. Information Technology & Innovation Foundation, May 18, 2020.

² MEP National Network. *Manufacturers Guide to Cybersecurity: For Small and Medium-Sized Manufacturers*, at pp. 1–3, accessed May 27, 2022 at

https://www.nist.gov/system/files/documents/2019/11/14/mepnn_cybersecurity_guide_10919-508.pdf; Toth, Pat. “Cybersecurity and Industry 4.0 – What You Need to Know.” May 11, 2022, accessed May 27, 2022 at <https://www.nist.gov/blogs/manufacturing-innovation-blog/cybersecurity-and-industry-40-what-you-need-know>; Powell, Michael. “Cybersecurity for the Manufacturing Sector: Reduce Data Integrity Breaches with NIST SP 1800-10,” April 21, 2022, accessed May 27, 2022 at <https://www.nist.gov/blogs/manufacturing-innovation-blog/cybersecurity-manufacturing-sector-reduce-data-integrity>.

³ University of North Carolina at Chapel Hill Center for Urban and Regional Studies. *Gearing Up: MEP Center Responses to the COVID-19 Pandemic*. January 2021. Accessed August 23, 2022 at https://curs.unc.edu/wp-content/uploads/sites/400/2021/01/Gearing_Up.pdf

⁴ The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth*. June 2021; Ezell, Stephen. *Policy Recommendations to Stimulate U.S. Manufacturing Innovation*. Information Technology & Innovation Foundation, May 18, 2020; Center for Regional Economic Competitiveness and Sparks Policy Group. *Manufacturing in Pennsylvania: An Overview of Issues and Opportunities*. November 1, 2021.

disruptions and reducing the impact of cybersecurity breaches that are urgent threats to domestic manufacturing.

The vital role of SMEs in the functioning of the economy, however, depends on a strong manufacturing workforce, and the challenges that SMEs face are particularly acute in workforce development. For example, the institutions that prepare talent for the workforce are more responsive to larger firms that will hire more graduates of their programs. Even when small firms do work together to gain the attention of a training provider and develop a talent pipeline, larger firms paying higher wages may provide a more attractive option for graduates. Smaller manufacturers are especially sensitive to talent shortages since they do not easily raise wages or adjust benefits to compete with larger firms and under these conditions they cannot easily attract, train, and retain new talent. One of their strengths, however, is their potential to provide foundational cross-training and skill building to their employees.

To ensure effective talent development by SMEs, improved services are needed. Over the last 30 years, Manufacturing Extension Partnership (MEP) Centers have played an important role in serving SMEs' business development needs. These Centers have needed to address a wide range of workforce challenges. Activities include:

- Assisting current manufacturing workers in keeping pace with technological progress and increasing the efficiency of production processes
- Advising company leadership on effective management and workplace practices
- Facilitating the transition of laid off workers to manufacturing jobs through boot camps
- Increasing awareness about the benefits of careers in manufacturing among students

MEP Centers conduct this crucial work on their own or in partnership with key collaborators from community colleges, universities, workforce development boards, nonprofit intermediaries, original equipment manufacturers (OEMs), and others.

Supply Chain Challenges

The disruptions caused by the pandemic have pushed larger manufacturing companies to both reduce their supply chain footprints and to source more inputs locally, consolidating geographically and tightening operational control. However, finding and developing smaller supply firms that are in the U.S. and meet large firm requirements remains a challenge. Small businesses and SMEs face unique challenges in acquiring and deploying new technology and have very narrow opportunities for investment and implementation, dictated primarily by their contracts and customers. Their contractors and customers rarely allow for large overhead costs, and when they do, investments are highly specific to the customer's needs. Customers, often larger firms, rarely provide support or even provide guidance to their suppliers regarding optimal upgrades or timing for investment. Of course, these trends vary by industry and customer. But in general, these factors limit SME adoption of technology as well as investments SMEs can make in training and development of staff. For these reasons, many SMEs are caught in a low productivity trap.

The MEP National Network now has the chance to build upon its strong foundations, taking the MEP Center contributions in workforce to scale. Four factors demonstrate that the present is the optimal time for a systemic and far-reaching approach to MEP workforce activities:

1. Persistent workforce challenges became readily apparent during the global pandemic.
2. Addressing these persistent workforce challenges requires expertise in addressing interconnected business challenges.
3. Thanks to recent investments by NIST MEP in documenting MEP Center services, there is a broad understanding of the nature and extent of workforce programs, services, and expertise offered by MEP Centers, and requested by SMEs, which could form the basis of a wide-scale initiative.
4. There is increased investment by federal agencies, states, and philanthropy to grapple with the national workforce challenges and increasing recognition among MEP Centers that they are well-positioned to play a role in addressing workforce challenges.

To help identify opportunities for the National Network, this paper documents the current state of practice regarding key workforce issues and challenges, current capabilities and workforce programs, and the federal program and funding context for workforce programs. Based on the context, it provides guidance for engaging the capabilities of the MEP National Network to broaden and deepen MEP Center workforce activities and services to address SME workforce challenges.

II. Workforce Opportunities and Challenges for the National Network

MEP Center leaders bring unique and important capabilities to the work of fulfilling SME workforce needs. Few organizations have such an intimate understanding of manufacturing industry dynamics and understanding SMEs in both the context of their supply chains and their local communities. For decades, MEP Center leaders have customized training and tools to meet the needs of SMEs. This means that Centers are well positioned to deliver workforce solutions that increase productivity without significantly disrupting work to improve overall return on investment.

Most importantly, MEP Center staff have ongoing relationships with SMEs, helping businesses to mitigate a wide range of business challenges over many years. These business challenges, from production to technology to management and supply chain issues, cannot easily be separated, and understanding the connections and appropriate sequences for addressing these issues helps SMEs to survive and grow. The experience that Center staff gain over years of working with SMEs provides important context for delivering effective assistance to SMEs with workforce issues. MEP Center staff typically come to the work with a deep understanding of technical and manufacturing challenges developed through years of experience working in private sector companies. This “street credibility” increases the likelihood that SMEs will listen to and act on recommendations provided.

MEP Centers are also experienced at engaging and managing partners to provide solutions for SME clients, another key capability in the delivery of effective and scalable services and solutions. MEP leaders have long-standing relationships with clients and service providers, bring technical expertise to ensure a good fit between company and service provider, and serve as “honest brokers” to deliver optimal solutions.

The insights and capabilities held by MEP Center leaders will be critical to expanding workforce services that support SME growth and innovation. However, expansion will need to address barriers Centers and the National Network face. Several factors have limited the engagement of MEP Centers in delivering workforce services over the last three decades. First, MEP Center staff with technical and engineering expertise may see workforce issues as the “soft” side of the business and beyond the purview of their Center's interests and expertise. This view was more popular before workforce challenges rose in prominence over the last decade or so. But still, a focus on engineering solutions may engender a culture where non-engineering solutions can be dismissed as someone else’s responsibility.

A second challenge is that the federal government’s public workforce system, with so many programs, eligibility requirements, funding rules, and agency requirements, is complicated and bureaucratic. Most MEP staff, who typically have worked extensively in the private sector with limited, if any, past exposure to the public workforce system. The system’s complexity makes it easy to assume or hope that other state actors (with significantly more funding and experience navigating government programs) will take responsibility for addressing workforce challenges, including those faced by SMEs.

A third challenge has been the Federal/non-Federal funding cost share requirement, which, prior to 2017, was set at 2:1, which meant that Centers had to match every \$1 of Federal funding with \$2 from other sources (e.g., state funding, local government funding, third party in-kind contributions, fees for services).⁵ Centers historically cited this as a barrier for experimenting with new services, such as workforce services. The need to generate sufficient revenue to meet NIST cost share requirements has often led Centers to depend on tried-and-true traditional services related to lean and quality improvement that were guaranteed to deliver revenues. The cost share requirement limits other services that require up-front investments for market research, product development, and staff training.

Finally, Centers have often mentioned that MEP performance metrics do not directly reward impacts from workforce services. The performance metrics only capture the impacts indirectly if the workforce services contributed to the recognized metrics of job creation/retention or sales and investments – and the relationship between workforce investments and desired outcomes is not always clear.

These historical challenges have led many Centers to focus more on serving manufacturers individually to deliver the highest return on investment and less on delivering programs that are hard to value, such as early career development programs, though these may be critical to serving the manufacturing sector at large. However, despite these historical challenges, there have been many examples of MEP Centers applying their expertise and assets to deliver a wide range of workforce services.

The next three sections document some of those workforce services and practices as a foundation for considering strategies to broaden MEP Center engagement in the workforce arena. Section III includes higher level insights drawn from multiple Center surveys conducted by America Works, Section IV describes potential partnerships and funding, Section V provides individual Center examples of the major initiatives and services provided somewhere in the National Network. Finally, Section VI provides a guide for MEP Centers seeking to initiate or expand workforce services.

⁵ U.S. Government Accountability Office. “Manufacturing Extension Partnership:Centers Cite Benefits from Funding Change, but Impacts Hard to Distinguish from Other Factors.” March 7, 2019, accessed June 21, 2022 at <https://www.gao.gov/products/gao-19-219>.

III. National Network Trends in Workforce Services

MEP Centers have engaged on issues of talent development at SMEs since program inception in 1989. With 51 Centers having developed and advanced a variety of workforce programs and services over many years, the National Network has begun to document this robust portfolio of workforce initiatives, partnerships, and program delivery models to encourage wider adoption of effective practices and learning across the Network.

A recent analysis of MEP Center activity by economic development scholars suggests that workforce services have been increasing since 2011 both in number of projects as well as percent of all MEP Center activities. The number of workforce services projects reported was about 250 in 2011 and 2,500 in 2021. The percent of all MEP Center projects that were workforce services was about two percent in 2011 and 14 percent in 2021.⁶

In 2020, NIST MEP awarded a grant to Missouri Enterprise and Centers in Ohio, New Jersey, Iowa, and Indiana to assess progress on and promote implementation of workforce initiatives across the National Network. The resulting America Works initiative documents and promotes solutions for workforce development in manufacturing. The goals of America Works are to 1) accelerate MEP efficiency through resources and consulting; 2) identify and scale up efficacy by improving workforce development at the national level; 3) establish Centers as the entry point for small American manufacturers; and 4) form a model for centralization and coordination of MEP Centers designed and intended for future expansion.⁷

Results from the America Works survey: Strongest Workforce-Related Partnerships

Survey responses suggest that the most popular workforce-related services were technical training (e.g., lean, quality, skills, industry certifications), frontline supervisor training, company culture improvements, and organizational development.

Source: CREC Staff Analysis of March 2022 America Works Survey Results

In early 2021, America Works collected 47 unique survey responses from the National Network, representative of almost all Centers. With America Works partners, they posted a series of blogs on Center manufacturing initiatives and insights across the manufacturing industry. They also generated an inventory of materials and discoveries from partners nationwide, which are available through the learning management system at MEP University. An updated survey in March 2022 provided more current detail on these activities.

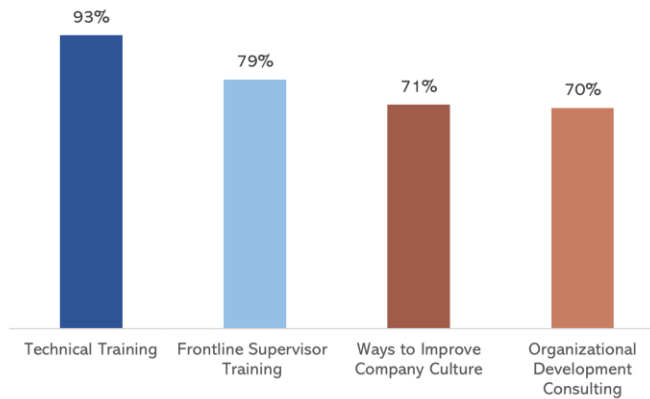
America Works found that nearly all MEP Centers support incumbent worker training or customized training for companies, in addition to services on company leadership or supervision. In 2022, America Works sought additional detail and reported that 93.4 percent of survey respondents provided technical

⁶ Lowe, Nichola and Greg Schrock. *Made with Equity: Advancing Technology, Racial Equity, and Job Quality*, presentation dated September 8, 2022, at slide 6.

⁷ Fieldman, Matt. "America Works—An Innovative Approach to Workforce Development." U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Partnership, March 9, 2021. Accessed December 22, 2021 at <https://www.nist.gov/blogs/manufacturing-innovation-blog/america-works-innovative-approach-workforce-development>.

training including lean, quality, skills, and industry certifications; 78.9 percent provided frontline supervisor trainings; and 50 percent provided talent attraction assistance.

Most Popular Workforce-related Services Offered by Centers



Source: CREC Staff Analysis of March 2022 American Works Survey Results

Results from the America Works survey: Strongest Workforce-Related Partnerships

MEP Center staff rated their relationships with workforce partners. Survey responses suggest that the strongest workforce-related partnerships were:

- Manufacturing Sector Partnerships**
- Economic Development Organizations**
- State Government**

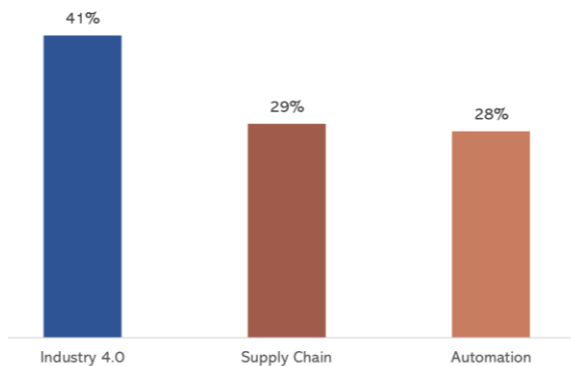
Source: CREC Staff Analysis of March 2022 America Works Survey Results

Many Centers have experience teaming up with local community colleges and K-12 organizations to engage youth and students. In 2021, more than three-quarters of the Centers identified community colleges, economic development organizations, and workforce development boards as key partners. However, the 2022 survey asked Centers to rate the strength of their workforce-related partnerships, including some additional workforce actors. The strongest partnerships across all MEP Center respondents were with economic development organizations and manufacturing sector partnerships, followed by state agencies and state government. Relationships with community colleges, workforce development boards, and local non-profits were weaker – half of centers rated their relationships with these types of organizations as strong, half did not.

The following emerging workforce services and initiatives stood out: among MEP Centers that responded to the America Works survey and confirmed they are directly offering services, 30 percent offer adult apprenticeships; 35 percent provide diversity, equity, and inclusion consulting; 23 percent include women-focused programs; 17 percent offer youth apprenticeship; and 13 offer youth pre-apprenticeship. This suggests a level of expertise in workforce programming that did not exist ten years ago. Also, experienced leaders are eager to share what they have learned: five have programs sufficiently developed enough to provide advice on best practices related to adult apprenticeships; two similarly can advise on youth apprenticeship and pre-apprenticeship. One can share best practices on DEI consulting. In 2021, two centers reported they could share best practices about women-focused programming.

While the number of experts is small in some cases, they represent critical leadership and knowledge held within the Network. America Works webinars and blogs have highlighted the work of these Network leaders. The material developed centers on leveraging emerging technologies, reaching out to untapped populations, launching new partnerships while strengthening quality jobs, culture, systems thinking, and career pathways.⁸ A critical issue championed by America Works on behalf of the Network is diversity in race, ability, age, gender, nationality, and socioeconomic status, with examples of programming demonstrated at MEP Centers in New Hampshire, Arkansas, Pennsylvania, and Maryland.⁹

Technical Programs MEP Centers Would like to Offer



Source: CREC Staff Analysis of March 2022 American Works Survey Results

According to the America Works survey, the technical themes for the training that Centers would most like to offer are Industry 4.0, supply chain, and automation training. These are areas in which there is also the least amount of expertise across the networks. However, there are a few survey respondents that can offer best practices: one or two respondents had best practices to offer in the areas of supply chain and customer service training and more than half of centers offer supply chain training.¹⁰

The same survey captures respondents' emerging interests in other business services. There is interest in Consulting on DEI, as well as in providing youth apprenticeship and pre-apprenticeship services.

These are less established services across the network, though there are within-Network experts.

There are three other related focus areas recognized by America Works (Assessments; Educating HR Professionals; and Employee Recruitment and Retention) and eleven best practice categories (Apprenticeships; Emerging Populations; Fundraising / New Revenue; Incumbent Worker Training (IWT); Job Placement / Executive Recruiting; Leadership Development; LMS; Manufacturing Day; Partnerships; Selling Workforce Services; Statewide Survey).¹¹

⁸ Fieldman, Matt. "What is Workforce Innovation?" U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Partnership, August 30, 2021. Accessed December 22, 2021 at <https://www.nist.gov/blogs/manufacturing-innovation-blog/what-workforce-innovation>; Fieldman, Matt. "Workplace Development is the New Workforce Development." U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Partnership, June 30, 2021. Accessed December 22, 2021 at <https://www.nist.gov/blogs/manufacturing-innovation-blog/workplace-development-new-workforce-development>.

⁹ Fieldman, Matt. "MEP Centers – On the Frontlines of Diversity, Equity and Inclusion." U.S. Department of Commerce, National Institute of Standards and Technology, Manufacturing Extension Partnership, April 6, 2021. Accessed December 22, 2021 at .

¹⁰ Respondents reported knowledge of best practices in lean training (18), supervisor training (15), cybersecurity (10), reflecting historical strengths and a large, recent investment in cybersecurity.

¹¹ These are documented in blog posts (<https://www.nist.gov/blogs/manufacturing-innovation-blog/insights-2022-mep-workforce-survey>) and presentations (Mar 16 2022 America Works presentation on "Get the Most Out of the MEP Workforce Database").

MEP Centers reported expertise in serving specific populations of students, trainees, or workers. Five or six centers can offer best practices regarding work with high school students and with re-entry/formerly incarcerated. A center or two can discuss best practices regarding displaced workers, middle school students, young professionals, career-tech students, four-year college students, new Americans/recent immigrants, special needs, veterans, women, and community college students.

Many more centers, while not offering best practices, have experience serving unique populations of workers and job seekers. Sixty percent of Centers work with young professionals, 53% work with women, 51% work with community college students, 50% with career-tech students, and 50% with Veterans. In the March 2022 survey, Center leaders also had an opportunity to describe populations with which they would like to work with more closely in the future, including New Americans/recent immigrants, the formerly incarcerated, displaced workers, special needs, veterans (more than 20% of all centers expressed interest in these groups).

IV. Potential Partnerships and Funding

The importance of manufacturing to the U.S. economy and the need to strengthen domestic supply chains require a committed, productive, and tech-savvy workforce and technologically advanced firms. Yet U.S. institutions—federal agencies, institutes of education and innovation, state policies—historically fail to serve smaller firms and may even make it more difficult for them to invest in technology and retain the workforce to adopt and deploy it. It is easy for education and training organizations to overlook SME workforce needs as they cater to larger firms.

MEP Centers are in a unique position to design and deliver effective workforce programming alongside other services for SMEs as well as to advance partnerships that will attract funding from federal programs, state agencies, and philanthropic organizations. The shifting and emerging interests reported in the previous section of this report suggest new opportunities for MEP Centers in the workforce development field. MEP Center staff are interested in expanding offerings to include DEI consulting and youth programming and several already have a track record in these areas. MEP Center leaders are planning to offer training that few other public or non-profit partners could provide as effectively – in Industry 4.0 and supply chain management.

MEP Center leaders have described populations with which they would like to work with more closely in the future, including new Americans/recent immigrants, formerly incarcerated persons, displaced workers, workers with special needs, veterans (more than 20% of all centers expressed interest in these groups). There may be opportunities for MEP Centers to further specialize in working with specific

Results from the America Works survey: Future Offerings

MEP Center staff chose programs they would like to offer in the future. Survey responses suggest that MEP Centers seek to expand programming in the following areas:

Consulting on Diversity, Equity, and Inclusion

40 percent of Centers would like to offer these services

Youth Pre-Apprenticeships

29 percent of Centers would like to offer these services

Youth Apprenticeships

28 percent of Centers would like to offer these services

Source: CREC Staff Analysis of March 2022 America Works Survey Results

populations of workers and youth, designing and delivering more effective workforce programming for these (future) workers to the benefit of the SMEs they serve.

Most education and training institutions – high school CTE programs, technical and community colleges, trade schools, non-profits and universities – have struggled to sustain effective programming for populations at high risk of unemployment and underemployment and few sustain programming to meet the specific needs of smaller manufacturing firms and their communities. MEP Centers can help to fill gaps, building on Network experience creating high school and early career programs to reach students that may thrive in manufacturing but might have otherwise missed opportunities to train for manufacturing jobs. SME interest in training for Industry 4.0 and supply chain management suggests that MEP Centers can serve SMEs on the leading edge of technology and attract new talent seeking these type of training opportunities.

Where will the funding come from for this work?

Partnerships with educational institutions, where viable, could prove to be the most critical in the long term for connecting talent year after year to the nation’s SMEs. Spending by all U.S. educational institutions—K-12, higher education, proprietary and private—is greater than combined spending by employers and other government agencies.¹² These important spenders are responsible for preparing our nation’s youth for adulthood, but the programming is more regulated and less flexible in response to industry than other training programs. Most of the programming is for general and not technical education, though that is changing with increasing incentives for schools to provide short-term credentials of value to professionals.

U.S. employers themselves, primarily large employers, are estimated to spend more than \$500 billion a year on internal training, training consultants and vendors, and on wages paid to employees while training.¹³ Investments by larger employers shape the training landscape and the benefits theoretically trickle down to smaller employers through the providers and institutions that larger firms engage. For this reason, MEP Center engagement in workforce training-oriented business-to-business meetings and sector partnerships, depending on the quality of the partnerships, may provide an avenue to improve spending and programming by larger employers and the institutions they influence.

State spending on education and training seems small compared to spending by businesses and higher education, about \$55 billion a year (or just over \$1b on average). These funds are significant because they help advance and knit together existing and more innovative programs. For example, state spending includes oversight of K-12 and higher education systems, support for schools that provide services and training to adults, as well as grants and other incentive programs that aim to influence firm and training provider behavior (e.g., they incentivize training during machinery updates, firm partnerships with colleges, or hiring of the long-term unemployed). MEP Centers are often already engaged with state agencies and stronger partnerships related to workforce challenges may lead to more effective program design, delivery, and assessment for SMEs.

¹² Credential Engine. *Education and training expenditures in the U.S.* Washington, DC: Credential Engine.

¹³ Credential Engine. *Education and training expenditures in the U.S.* Washington, DC: Credential Engine.

Federally administered workforce development programs are an even smaller \$16 billion a year.¹⁴ This includes 38 federal workforce development programs identified by GAO in a March 2019 report.¹⁵ This funding is critical to advance and sustain new and innovative programs.

Federal Funding

Among the federally administered programs, the largest source of federal funding for workforce development is the **U.S. Department of Labor (DOL)** at \$3.9 billion in 2022, supporting Training and Employment Services for Adults, Youth, and Dislocated Workers under the Workforce Innovation and Opportunity Act (WIOA). States and local areas receive most of these WIOA funds, with a split of 15 percent to state programs and 85 percent to their local areas. This includes funding that goes to state and local workforce boards that in turn fund and coordinate the job placement and services that support individuals at risk of long-term under- and un-employment, including funding training for incumbent and dislocated workers, youth, and other special populations.

The DOL WIOA funds are noncompetitive federal funds, with allocations to states determined by formula. DOL also administers discretionary grants won competitively by states or local organizations.¹⁶ In early 2020, for example, 28 public-private apprenticeship partnerships received almost \$100 million through the Apprenticeship: Closing Skills Gap grant program to support industries including advanced manufacturing.¹⁸ Advanced manufacturing was a priority area for the \$183.8 million distributed in Scaling Apprenticeship Through Sector-Based Strategies which listed recipients of 23 academic institutions predominantly community colleges with partners in the private sector.¹⁹ Currently, an open funding opportunity solicits applicants for Strengthening Community Colleges Training Grant intended "to meet the skill development needs of employers in in-demand industries and career pathways," reiterating advanced manufacturing throughout their public announcements.²⁰

¹⁴ Credential Engine. *Education and training expenditures in the U.S.* Washington, DC: Credential Engine.

¹⁵ Government Accountability Office. "Employment and Training Programs: Department of Labor Should Assess Efforts to Coordinate Services Across Programs." Accessed September 14, 2022 at <https://www.gao.gov/assets/700/698659.pdf>.

¹⁶ Urban Institute. "Federal Sources of Workforce Funding." Accessed September 5, 2022 at <https://wfguide.urban.org/node/69.html>.

¹⁷ US Department of Labor, Employment and Training Administration. "Grants Awarded." Accessed September 5, 2022 at <https://www.dol.gov/agencies/eta/grants/awards>.

¹⁸ US Department of Labor, Employment and Training Administration. "U.S. Department of Labor Announces Nearly \$100 Million in Apprenticeship Grants to Close the Skills Gap," February 18, 2020. Accessed September 6, 2022 at <https://www.dol.gov/newsroom/releases/eta/eta20200218>.

¹⁹ US Department of Labor, Employment and Training Administration. "U.S. Department of Labor Makes Major Announcements on Apprenticeship Expansion," June 24, 2019. Accessed September 6, 2022 at <https://www.dol.gov/newsroom/releases/eta/eta20190624>.

²⁰ US Department of Labor, Employment and Training Administration. "Current Grant Funding Opportunities." Accessed September 5, 2022 at <https://www.dol.gov/agencies/eta/grants/apply/find-opportunities>; US Department of Labor, Employment and Training Administration. "Frequently Asked Questions (FAQ)" in Strengthening Community Colleges Training Grants (Third Round) FOA-ETA-22-02, August 24, 2022. Accessed September 14, 2022 at <https://www.dol.gov/sites/dolgov/files/ETA/grants/pdfs/SCC3%20FOA%20FAQs%208.24.22%20.pdf>; Grants.gov. "FOA-ETA-22-02 Strengthening Community Colleges Training Grants" updated June 3, 2022. Accessed September 14, 2022 at <https://www.grants.gov/web/grants/view-opportunity.html?oppId=336701>.

Additional DOL funds support Reentry and Migrant Worker programs. DOL funds might support state assistance, program assistance, technical assistance, and demonstration projects for specific regions, populations, or institutions.

Congress appropriated another \$2 billion in the 2021 federal budget to the **U.S. Department of Education** for Career and Technical Education through the Carl D. Perkins Career and Technical Education Act. These funds are distributed by state agencies (typically, a board of education) to high schools, colleges, and universities to support and improve career and technical education (CTE) programs. The goal is to develop the skills of students through career exploration, work-based learning, and earning credentials of value.

Each year, Congress appropriates approximately \$1.1 billion in state formula grant funds under Title I (Basic State Grants) for the development and implementation of career and technical education programs. In addition, over \$26 million in funding is authorized for four discretionary grant programs that seek to develop, improve, and modernize career and technical education programs.²¹ These programs are: Innovation and Modernization Program, Native American Career and Technical Education Program, Native Hawaiian Career and Technical Education Program, Tribally Controlled Postsecondary Career and Technical Institutions Program.

The **United States Department of Commerce** also works to create conditions for economic growth by investing in employer-driven regional workforce education and training systems, fostering transformative employer practices, and producing and disseminating timely and clear information on opportunities for skills development.

The Economic Development Administration (EDA), established under the Public Works and Economic Development Act, works to accomplish the Department of Commerce's goal of investing in employer-driven regional workforce education and training systems that are directly connected to the hiring and skills needs of the business community. One project is the Build Back Better Regional Challenge, which provides transformational investments to develop and strengthen regional industry clusters across the country. Also, the EDA's Good Jobs Challenge works to build and strengthen systems and partnerships that bring together employers who have hiring needs with other key entities to train workers with in-demand skills.²²

In addition to housing the MEP National Network, NIST also coordinates the Manufacturing USA[®] network. The 16 institutes align manufacturers of all sizes, academia, and government to work on major research and development projects relevant to industry and train people on advanced manufacturing skills. Recently, NIST awarded nearly \$54 million in grants for 13 high-impact projects for research, development and testbeds for pandemic response. The funding, provided by the American Rescue Act, will support projects at eight manufacturing institutes in the network, working with more 80 partners including leading research universities, nonprofits, and small and large manufacturers.²³

²¹ Perkins Collaborative Resource Network. "Funding Opportunities." Accessed September 14, 2022 at <https://cte.ed.gov/grants/funding-opportunities>.

²² United States Department of Commerce. "Workforce Development – Investments." Accessed September 14, 2022 at <https://www.commerce.gov/issues/workforce-development/workforce-development-investments>.
United States Department of Commerce, National Institute of Standards and Technology. "Commerce Department Awards \$54 Million in American Rescue Act Grants to Increase Access to Advanced Manufacturing Opportunities."

Table 1: Primary Federal Budgets for State and Local Workforce Development and Assistance

Federal Department	Legislation Title	Estimated Annual Budget
Labor	Workforce Innovation and Opportunity Act	\$3.9 Billion
Education	Carl D. Perkins Career and Technical Education Act	\$2 Billion
Commerce	Public Works and Economic Development Act National Institute of Standards and Technology Act	\$330 Million \$850 Million

Sources: Library of Congress. "H.R.2471 - 117th Congress (2021-2022): Consolidated Appropriations Act, 2022." March 15, 2022. Accessed September 12, 2022 at <https://www.congress.gov/117/plaws/publ103/PLAW-117publ103.pdf> (Agriculture, HUD, Labor, Education, Commerce)

These three primary sources of funding for training are listed in Table 1 with their estimated annual budgets. Other federal programs that support workers are supported by the U.S. Department of Health and Human Services (\$3 billion in 2020 under the Personal Responsibility and Work Opportunity Reconciliation Act); Department of Agriculture Food Stamp Act, which supports the Supplemental Nutrition Assistance Program (\$300 million); and U.S. Department of Housing and Urban Development Family Self Sufficiency Program (\$109 million).²⁴

We found more than eight other federal agencies were investing in training for the Skilled Technical Workforce in 2022, including Veterans Affairs, National Science Foundation, FAA, Departments of Defense, Commerce, Agriculture, Energy, and Transportation.²⁵ New initiatives were targeted to rural areas, STEM education, career pathway development, industry modernization, and apprenticeship expansion – areas aligned with MEP Center strengths and interests. Federal funding is a complex web to navigate, and it is not the largest source of training spending, but funds flow to key actors in state and local workforce development systems, such as colleges and workforce boards. Partnerships with these organizations are key to improving services and support to SMEs.

February 28, 2022. Accessed September 6 2022 at <https://www.commerce.gov/news/press-releases/2022/02/commerce-department-awards-54-million-american-rescue-act-grants>.

²⁴ U.S. Department of Health & Human Services, Administration for Children & Families. "FY 2020 Federal TANF & State MOE Financial Data." September 22, 2021. Accessed June 21, 2022 at https://www.acf.hhs.gov/sites/default/files/documents/ofa/fy2020_tanf_financial_data_table_092221.pdf (HHS)

²⁵ Reamer, Andrew. "Federal Agencies with Skilled Technical Workforce (STW) Development Programs" in *Prepared under NSF Contract 49100421C0020-Administrative Datasets on Non-Degree Credentials: Creating and Analyzing a Repository*. April 21, 2022

Programming that attracts federal funding typically aims to address sector-wide challenges including technology adoption and training. Two key partners for increasing access to federal funding for manufacturers' workforce development efforts are workforce boards (state and local) and community colleges (statewide networks and local institutions). Most MEP centers have partnerships with these types of organizations but rate the quality of the relationships as weaker than their relationships with state agencies and economic development organizations.

Source: CREC Staff Analysis of Federal Programs and MEP funding source reports

State Funding

Across all state workforce funding, only about 0.1% is clearly dedicated to manufacturing-specific programming in FY2021.²⁶ That number seems to be increasing, but for a sector which employs 8 percent of the U.S. workforce and which generates 11 percent of total U.S. output,²⁷ this level of dedicated workforce funding may be insufficient.

States administer both federal and state funding. State and local workforce development boards (or councils) function as state and local level administrators of federal DOL WIOA funding and as local partners in workforce training and labor pipeline coordination. These boards are one part of a “patchwork” of programs including state and local agencies and public-private development partnerships, which together constitute state public workforce systems.²⁸

States can also strategically offer funds through various educational offices or institutions to strengthen the connection between education and workforce supply needs. As of FY 2021, at least 31 states provided workforce development funding through their state education agency, 29 through their higher education office, and 32 through the community and/or technical college system.²⁹ We found that in five states, about half of education-related economic development expenditures go to community

²⁶ CREC analysis of State Economic Development Program Expenditures Database. C2ER: State Economic Development Program Expenditures Database. (n.d.). Retrieved from <http://stateexpenditures.org/>

²⁷ 2021 United States Manufacturing Facts. NAM. (n.d.). Retrieved from <https://www.nam.org/state-manufacturing-data/2021-united-states-manufacturing-facts/>

²⁸ Eyster et al. Understanding Local Workforce Systems. Urban Institute, March 2016. Accessed September 5, 2022 at https://www.urban.org/sites/default/files/publication/78496/2000648-understanding-local-workforce-systems_1.pdf.

²⁹ Erwin et al. “50-State Comparison: Education and Workforce Development Connections.” Education Commission of the States, September 1, 2021. Accessed September 5, 2022 at <https://www.ecs.org/50-state-comparison-education-and-workforce-development-connections/>.

colleges.³⁰ These linkages between workforce needs and educational institutions—especially as they relate to certifications and technical degrees—are vital to establish labor supply pipelines to SMEs.

Many state workforce boards engage with educational institutions and some integrate them directly into the WIOA board or council. Some states have significantly extended workforce board competencies in education and certifications, establishing connections with K-12 and postsecondary institutions. Overall, 29 states' workforce boards include additional members with backgrounds in education—above what is required by WIOA.³¹

State and local governments combine WIOA, DOL competitive grants, and other public-private sources to fund a variety of workforce and manufacturing programs.^{32 33} For example, community colleges are strategically positioned to tap funding in this way from multiple sources and to serve as partners in competition for new federal funding. With community colleges, states and localities can seek competitive discretionary grants like the open funding opportunity for the “Strengthening Community Colleges Training Grant”³⁴ mentioned above.

V. Examples of MEP in Action and Guide to Center Decision Making

For many reasons, the MEP Centers have historically focused on revenue-generating individual business services (e.g., consulting and strategic planning for individual businesses). In some cases, that has led the Centers into a role aimed at advancing or serving the industry at large (e.g., sponsoring apprenticeship programs that serve multiple manufacturers, championing talent pipeline development initiatives, consulting on equity and inclusion initiatives across an entire sector).

This is a critical distinction in programmatic focus which is not likely to change. Programs that aim to serve **manufacturers** individually (micro focus – see examples in Table 2) and programs that aim to serve the **manufacturing sector at large** (macro focus – see examples in Table 3) are both necessary. Each has unique potential for revenue generation and different potential sources of funding. And there are still major gaps that only SME service providers can fill in each of these areas.

³⁰ CREC analysis of State Economic Development Program Expenditures Database. C2ER: State Economic Development Program Expenditures Database. (n.d.). Retrieved from <http://stateexpenditures.org/>

³¹ Erwin et al. “50-State Comparison: Education and Workforce Development Connections.” Education Commission of the States, September 1, 2021. Accessed September 5, 2022 at <https://www.ecs.org/50-state-comparison-education-and-workforce-development-connections/>.

³² Mikelson, Kelly S. and Ian Hecker. Public Funding for Job Training at the State and Local Level. Urban Institute, June 2018, at Figure 3, p. 26. Accessed September 5, 2022 at https://www.urban.org/sites/default/files/publication/98625/public_funding_for_job_training_at_the_state_and_local_level.pdf.

³³ Center for Community Solutions. “Sources of Funding for Workforce Development Programs in Cuyahoga County, 2019.” Accessed September 5, 2022 at <https://www.communitysolutions.com/research/funding-workforce-development-cuyahoga-county/>.

³⁴ US Department of Labor, Employment and Training Administration. “Current Grant Funding Opportunities.” Accessed September 5, 2022 at <https://www.dol.gov/agencies/eta/grants/apply/find-opportunities>; US Department of Labor, Employment and Training Administration. “Frequently Asked Questions (FAQ)” in Strengthening Community Colleges Training Grants (Third Round) FOA-ETA-22-02, August 24, 2022.

In order to help assess partnership and funding opportunities, MEP Center workforce interventions below are categorized as having a macro or a micro focus. Workforce initiatives with a micro focus align with the type of work that MEP Centers have done traditionally with individual companies. Examples of a micro focus include organizing training for company employees to develop a particular skill set, helping a company develop an HR manual, assisting with hiring for hard-to-fill positions, developing a talent management plan, analyzing and addressing turnover problems, and others. In these cases, the work is focused on addressing the needs of an individual company, drawing on the MEP Center staff and partners' expertise and resources.

Table 2. Micro Focus Project Examples - Categories aligned with MEP Strategic Planning exercise categories for Workforce Initiatives and matching “Potential Projects” identified by NIST.

Potential Project	Center Examples	Project Brief Description	More Information
Promote advanced workforce practices to improve culture, especially through HBCUs, with a focus on diversity, equity and inclusion	Oregon	Job satisfaction	<i>Increased Training Proficiency Improves Morale</i> (https://www.nist.gov/mep/successstories/2017/increased-training-proficiency-improves-morale)
Identify innovative ways to increase productivity and retention to fully use the existing workforce	Oregon	Innovative training system called SMART Talent approach	<i>Success Story: Smart Talent Success for Growing Company</i> (https://www.nist.gov/blogs/manufacturing-innovation-blog/success-story-smart-talent-success-growing-company)
Use learning management systems to deliver products meeting the needs of manufacturers in a timely manner	South Carolina	Individuals have flexible access to training	South Carolina Manufacturing Extension Partnership Web-Based Training (scmep-online.org)

Workforce initiatives with a macro focus involve efforts that build the workforce ecosystem and/or provide benefits beyond an individual company. Examples of a macro focus might include raising awareness about careers in manufacturing, advising on academic content for community college manufacturing training curricula, launching a manufacturing bootcamp to prepare nontraditional workers for manufacturing jobs, educating workforce system policymakers and providers about the unique workforce needs of SMEs, supporting a state's effort to develop a strategic plan to grow manufacturing, and others. In each case, the work is focused on system-building initiatives that strengthen the state or region's ability to meet SME workforce needs across multiple companies.

Table 3. Macro Project Examples - Categories aligned with MEP Strategic Planning exercise categories for Workforce Initiatives and matching “Potential Projects” identified by NIST.

Potential Project	Center Examples	Project Brief Description	More Information
Expand manufacturing apprenticeships and include a diverse workforce	Florida	Out of work youth and young adults	Bridging the Skills Gap: Training Florida’s Future Manufacturing Workforce (https://www.floridamakes.com/service-offerings/workforce-development/workforce-resources)
Expand manufacturing apprenticeships and include a diverse workforce	New Jersey	Out of work adults and incumbent workers	NJMEP Logistics Technician Apprenticeship Program (https://www.njmep.org/news-press/new-jersey-manufacturing-extension-program-inc-njmep-receives-u-s-department-of-labor-approval-to-offer-the-registered-logistics-technician-apprenticeship-program/)
Expand/develop new workforce training with local and state partners (e.g., industry supported bootcamps)	Maryland	Bootcamp with classroom and on-the-job training	Boot Camp Prepares Job Candidates for Work in Growing Company (MD MEP's First Manufacturing Boot Camp Proves Successful Columbia, MD Patch)
Promote advanced workforce practices to improve culture, especially through HBCUs, with a focus on diversity, equity and inclusion	Oregon	Job satisfaction	Increased Training Proficiency Improves Morale (https://tinyurl.com/2mafzkue)
Position the MEP Center as regional/state intermediary, organizing manufacturers, identifying needs; work with partner workforce organizations to address critical issues	Iowa	Growth in manufacturing employment of a diverse workforce; Diversity of the manufacturing workforce; Improved perception of manufacturing jobs	Center for Industrial Research and Service One Pager (https://tinyurl.com/2s36s847)

Potential Project	Center Examples	Project Brief Description	More Information
Implement regional or statewide pipeline development initiatives	North Carolina	More youth entering manufacturing jobs and manufacturing-related education programs	NCMEP Partner IES Delivers Customized Training Course to Support Global Safety Program (https://tinyurl.com/26vx4pd4)
Lead ongoing discussions regarding the future needs of small manufacturers	Pennsylvania	Workforce with continuously up-to-date knowledge and skills	DVIRC Helps Germantown Tool Generate \$6M in New Revenue Through Market Expansion (https://tinyurl.com/2p8e36ty)

While Center activation and leadership in addressing workforce issues have historically focused on providing optimal services to each individual SME client, there are now examples of training programs that cater to the needs of a greater number of SMEs at once, creating shared resources (e.g., training labs with machinery and analytic tools available to all clients at MEP Centers), and coordinating action among clients to solve training, technology adoption, and talent retention challenges (e.g., jointly funded coaches and training programs).

The variety of programming as well as the extensive experience in both “micro” and “macro” workforce development efforts positions the MEP Network well for future challenges, with a well-diversified portfolio of activities and expertise. It will be important for individual Centers to continue to establish their expertise and refine their service delivery at both levels. At the micro level, to ensure ROI for customers, providing an example to partners on programming that works for businesses and workers alike. For Centers focused on macro or ecosystem-wide changes, strategic partnerships will need to be strengthened to further activate education and training resources for SMEs. The expansion of both micro and macro would create many more opportunities for partnership with community colleges, workforce boards, and community-based non-profits.

Table 4: Micro and Macro Focus: Guide to Categorization

Activity Description	Building the Workforce Ecosystem (Macro focus)	Working in the Business on Workforce Issues (Micro focus)
Expand manufacturing apprenticeships and include a diverse workforce	✓	
Expand/develop new workforce training with local and state partners (e.g., industry supported bootcamps)	✓	
Promote advanced workforce practices to improve culture, especially through HBCUs, with a focus on diversity, equity and inclusion (e.g., implement and enhance Smart Talent) Categorize as “B” if working with companies to improve their culture to enhance attraction and retention, or use Smart Talent. Categorize as “E” if building new partnerships with organizations such as HBCUs to increase pipeline flow into mfg careers.	✓	✓
Identify innovative ways to increase productivity and retention to fully use the existing workforce		✓
Use learning management systems to deliver products meeting the needs of manufacturers in a timely manner		✓
Position the MEP Center as regional/state intermediary, organizing manufacturers, identifying needs; work with partner workforce organizations to address critical issues	✓	
Implement regional or statewide pipeline development initiatives (e.g., internship programs targeted to diverse candidates)	✓	
Lead ongoing discussions regarding the future needs of small manufacturers	✓	

Source: CREC Staff Analysis of MEP Strategic Planning exercise categories for Workforce Initiatives / Potential Projects

FOUR CASES: HOW DID THEY DO IT?

CREC selected four cases from those listed above to illustrate how public funding, partnerships, and MEP expertise are combined to improve workforce services to SMEs. All four cases (from Florida, New Jersey, Hawaii, South Carolina) were identified as having a “macro” focus on industry- or sector-wide challenges. These cases were selected and described here because they best illustrate increases in partnerships, funding, and resources for SMEs.

MEP Center: FloridaMakes

Host Organization: an alliance of Florida’s Regional Manufacturers Associations governed by Florida Advanced Manufacturing Workforce Leadership Council (AMWLC)

Workforce Program and Funding: Apprenticeship, including for youth and with DEI focus, supported by state education department and state workforce board (CareerSource Florida)

Key Partners: For the IMT apprenticeship programming requirements and curriculum development, FloridaMakes partnered with workforce boards and regional manufacturers associations. The collaboration was launched with support from AMWLC and sustained by the Florida Dept of Education Division of Career and Adult Education.

Related Programming: FloridaMakes local business advisors help businesses navigating funding and designing apprenticeship programs

Public Funding: Apprenticeship in Florida is supported by the Florida Department of Economic Opportunity and CareerSource Florida (state workforce board). FloridaMakes works with these agencies and their network of 24 local workforce boards and 100 career centers in Florida. Additional resources for workforce-related support are provided by the state department of education, which funds sector partnership activities, youth engagement, joint programs with tech schools, college student engagement, and DEI.

Workforce Population Served: Gen Z talent

MEP Center: INNOVATE Hawaii

Host Organization: Hawaii Technology Development Corporation (state agency)

Workforce Program and Funding: Apprenticeship supported by state labor department

Key Partners: University of Hawaii Community Colleges – 7 campuses and educational centers

Related Programming: Smart Talent (MEP model developed by Oregon MEP) with an emphasis on company leadership, supervisor training, and women in leadership

Public Funding: state department of labor + manufacturing assistance program grant + Hawaii Small Business Innovation and Research grant (HSBIR) + state Small Business Development grant

Workforce Population Served: college students and current employees at manufacturers

MEP Center: New Jersey Manufacturing Extension Program

Host Organization: none – not-for-profit

Workforce Program and Funding: Veterans and Community Recruitment supported by NJMEP Pro-Action Education Network (PEN) & Workforce Development team and by Department of Defense OLDCC.

Key Partners: CTE schools, vocational-technical schools, community colleges, career centers, community partners

Related Programming: NJMEP Pro-Action Education Network, a statewide scalable platform developed to prepare job candidates, refresh incumbent worker skills, assess demand and supply, facilitate collaboration. Programming ranges from a 25-hour Manufacturing Associate course (self-paced, can be completed in four days) to multi-year apprenticeship. The innovative Logistics Technician Program is a key focus.

Public Funding: In addition to Defense funding, veterans programming in apprenticeships is supported by the Department of Labor

Workforce Population Served: Veterans

MEP Center: South Carolina Manufacturing Extension Partnership

Host Organization: none – not-for-profit

Workforce Program and Funding: SCMEP Online Web-Based Training for Manufacturers and their Employees. Funded by fees charged. The online learning management system delivers training products to meet the needs of manufacturers in a timely manner. Employees (and other registrants) have access to online training.

Key Partners: promotional partners and back-end partners

Related Programming: joint programs with local community college or tech schools; transitioning, displaced, unemployed worker training

Public funding: Related programming is supported by the state department of labor. The “state” provides funding for joint programs with local community college or tech schools. DOD supports cybersecurity training. The state provides partial funding for online training for registered South Carolina manufacturers.

Workforce Population Served: general, flexible

GUIDE FOR CENTER DECISION MAKING

Earlier sections of this report documented MEP’s long history of experimentation and successes with developing and delivering workforce programs that are effective for smaller manufacturers. The results are reflected in the breadth and depth of workforce services that are now provided by MEP Centers, described above. There is abundant evidence that Centers are well-positioned to contribute even more to addressing manufacturers’ workforce challenges.

In assessing opportunities and strategies for expanding workforce services, Centers should consider the inherent advantages provided by their organizational affiliation (higher education affiliation, 501(c)(3) nonprofit organization, state-based). University-affiliated Centers, for example, have an advantage developing strategies and initiatives that engage four-year graduates including engineers and support technology adoption and high skill work. Community or technical college-affiliated Centers have a natural constituency working with skilled production technicians. State-based Centers, as part of the public sector workforce ecosystem, are well-positioned to collaborate with the public workforce system, to advocate that those resources address SME needs, and to partner with state business attraction teams to smooth the transition for manufacturers expanding or locating in the state.

Centers will also need to examine the political and programmatic landscape to identify potential partnership and funding opportunities in their states, including relationships with workforce boards and community colleges. Centers may need to leverage relationships with state and local economic development leaders to understand the “workforce system” (the network of service providers and funders) in their state and to define areas of unmet need.

Leveraging partnerships and the MEP Network, Centers should:

- Assess to what extent the workforce system is serving SMEs;
- Define areas of unmet need where MEP Centers can provide unique expertise;
- Adapt leading practices from the MEP National Network to fill gaps in the SME talent pipeline;
- Identify viable funding sources to support the effort; and
- Determine metrics to evaluation progress and success.

Building on the cases described above and the collective experience of Centers in the National Network, the following actions provide a guide to making decisions and investments. In practice, this is not a linear process nor is it a uniform process. Centers all have different experiences developing and delivering a wide range of workforce services, with different levels of awareness about SME workforce needs and the service delivery context. Centers may need to respond to funding opportunities before they have a chance to assess the landscape or may first establish a partnership and common success metrics before defining areas of unmet need. Some actions will be prioritized given the nature of the Center’s host organization. For example, Centers based in a community or technical college system will operate differently than those operating as independent non-profits.

Despite the often-circuitous path to identifying partnerships and funding, we offer a logical process to begin or re-focus their work. The following steps and associated questions will be especially helpful to new Center leaders and staff as well as to any Center interested in expanding their workforce practice and/or services.

STEP 1: Assess to what extent the “workforce system” of providers is serving SMEs.

The federal and state governments and private entities have invested billions of dollars in workforce development over the last 50 years, and many existing organizations—public and private—are actively engaged in this work. Understanding what they are doing, the extent to which SMEs participate, and how your MEP Center can contribute most effectively is critical to success. Moreover, this inquiry is an essential first step that will help your Center build strong relationships with existing stakeholders and avoid duplicating work already underway.

Questions to Ask:

- To what extent do your state and local workforce development boards prioritize services to manufacturing companies? To SMEs?
- What role do community and technical colleges play in addressing manufacturing companies’ workforce needs? Do SMEs find their programs and services accessible and effective?
- What non-governmental intermediary organizations are engaged in filling gaps in services or targeting specific sectors or populations?
- What foundations or other non-governmental organizations provide funding or expertise to address workforce challenges in your state?
- What role does your MEP Center currently play in this system of workforce providers, and how is this influenced by the type of host organization?

STEP 2: Define areas of unmet need where MEP Centers can provide unique expertise to fill identified gaps.

Despite the extensive ongoing efforts to address workforce needs in your state, there are undoubtedly gaps in programs or services available. A few examples of gaps might include shortfalls in different types of workforce services in certain geographic areas or populations, lack of services available to important industry subsectors, lack of technical expertise to inform training curriculum content, or the need for credible relationships with SMEs to ensure they are engaged and benefiting from existing programs. Existing workforce stakeholders are more likely to support your Center’s involvement if you are working with them to define those gaps and deliver resources to address them (e.g., technical expertise, staffing, partnerships, etc.).

Questions to Ask:

- Based on your review in Step 1 above, what are the evident gaps in manufacturing programs or services?
- If your Center currently provides workforce services directly or through partners, how do those services relate to the gaps identified?
- Does your Center (or current partner organizations) have the expertise and capacity to address any of the identified gaps?
- What would be the unique contribution(s) of your MEP Center to the effort?
- Does it make sense to structure the initiative to target an entire manufacturing subsector? A particular occupation or skill area that is in demand? Or to work with individual companies?
- What do education or workforce organizations need to know about MEP so that your engagement is well-received?
- If you don't have the capability or capacity currently, what new partnerships or new hires might be required to meet the needs?
- How does your type of host organization enhance or inhibit your Center's ability to address identified gaps?

STEP 3: Adopt and adapt leading practices from the MEP National Network to fill gaps in the SME talent pipeline.

There is no need to reinvent the wheel. Over thirty years of experience with MEP Centers suggests that, no matter the challenge, there is always someone somewhere in the national network who has done similar work that can inform your efforts, save you time and money, increase speed to market, and enhance the likelihood of success. The information in the prior section provides many suggestions about where to start.

Questions to Ask:

- What MEP Centers have already done work that addresses the gaps that we have identified in our state?
- How many MEP Center staff would need to be hired and trained to launch the effort? Or alternatively how much partnership development is needed first? How long before your Center would be ready to launch this service?
- Do the programs or services under consideration provide for the greatest impact when measured against other unmet workforce needs in your state?
- How does your type of host organization influence your ability to develop and deliver the services to address those gaps?

STEP 4: Identify viable funding sources to support the effort (e.g., self-funded, partner-funded, fee for service, foundation, federal or state workforce programs).

Several factors will drive your decisions about which funding sources to pursue to support the new workforce program or service. These include how quickly you want to launch the effort, your Center’s current financial situation, size of the investment required to go from current state to launch, openness to collaboration with partners that may fund the work, strength of existing relationships with public funding sources, tolerance for the application and reporting requirements that accompany public funding, whether the program or service is likely to generate clients (SMEs or individuals) willing to pay for the product, and others.

Questions to Ask:

- How would you cover the costs of the programs or services under consideration? Are we constrained by the need to have the new initiative generate revenue (fee-for-service)? Or does your Center’s financial situation allow you to consider other options?
- Which funding sources best match our goals and objectives in launching the new programs or services?
- Can we leverage existing relationships to access external funding and/or reduce the time to market?
- Do we know enough to understand the requirements about how to access public funding sources or do we need to partner with other organizations or hire that expertise?
- Does your type of host organization make it easier, more difficult, or impossible to pursue external funding from public sources?

Innovative programs serving businesses and workers must knit together a variety of funding sources and partners to ensure success. For example, a layoff aversion program may rely on business service providers funded by the state to recognize risk factors, workforce service providers to identify employees at risk, and MEP Centers to respond. Or, for example, new high-school-start apprenticeship programs that have support from businesses, K-12, and college leaders may attract initial planning funds from a local foundation in preparation to seek federal funding that would underwrite participation by at-risk students and workers. Innovative programs that bridge multiple actors in the workforce system are good candidates for philanthropic funding, planning grants from philanthropy or federal or state governments, and challenge grants from any of these sources. Increasingly, funders understand that it is critical to have businesses or other industry champions lead these efforts, putting MEP Centers in an advantageous position to represent SMEs and solicit a positive response from potential partners and funders.

STEP 5: Determine metrics to evaluate progress and success

All MEP Centers are familiar with the adage that “you get what you measure.” Leveraging existing performance metrics or establishing a set of metrics to gauge program progress and document outcomes is no less important for workforce services than it is for the traditional services offered by MEP Centers across the nation. Depending on the nature of the programs or services and the target audience, existing MEP metrics may suffice in some cases. For instance, a “jobs retained” measure is relevant for a program to train incumbent workers in new technologies or skills required to be productive on the job. However, in most cases, outcomes for workforce programs and services may require additional metrics to capture whether the program goals and objectives are being attained. This may be especially true for workforce programs with public funding, which usually require data collection to support an extensive set of measures developed over many years.

Questions to Ask:

- Will the expanded workforce programs or services under consideration have a likely impact on any existing MEP metrics?
- Will funders or other stakeholders have different metrics that they’ll want tracked for their purposes?
- Will collecting data on additional outcome metrics provide any benefit to your MEP Center with other stakeholders such as state legislators or agency leaders?
- How does your type of host organization influence your ability to establish new or leverage existing metrics to capture impacts?