



# Pro-Action Education Network™

## *A model to scale industry-responsive education and training*

### New Jersey Manufacturing Extension Program (NJMEP)

**Summary.** The Pro-Action Education Network™ represents a statewide, scalable platform to: 1) prepare students and workers to fill open positions that affect the profitability and growth of companies; 2) refresh the skills of incumbent workers to remain globally competitive; 3) assess and pool the demand for education and training across geographic and institutional boundaries; and 4) facilitate collaboration between education and workforce development stakeholders that advances the *65 by '25 Many Paths, One Future* campaign. The Pro-Action Education Network™ involves reconfiguring a collaborative partnership between and among diverse resource partners all attempting to help employers address workforce needs. NJMEP holds a unique position to facilitate this effort. NJMEP, an intermediary organization, provides direct service to companies - including training, and connects these companies to resource partners and initiatives that accelerate technology transfer, innovation, growth and profitability.

#### Calibrating Workforce Supply and Demand Remains a Significant Challenge

Middle-skill jobs require an education beyond high school and less than a four-year degree. Middle-skill jobs make up the largest part of the labor market in the United States and in each of the 50 states. In New Jersey, middle-skill jobs account for 53 percent of New Jersey’s labor market. However, only 37% of the state’s workers hold an education beyond high school but not a four-year degree.<sup>1</sup> According to a recent McKinsey study, a growing mismatch of middle skill workers represents a critical factor that limits a future-oriented, high-growth economy.<sup>2</sup> The *65 by '25 Campaign* represents New Jersey’s urgent call to action.

Melanie Willoughby with the New Jersey Business and Industry Association said 80 percent of manufacturers in the nation have a serious shortage of qualified applicants for skilled production positions. Willoughby states, "This is not where we want to be with the manufacturing industry in New Jersey that is worth over \$44 billion, paying an average salary of \$90,450 without a BA."<sup>3</sup>

John W. Kennedy, Ph.D., Chief Executive Officer of the New Jersey Manufacturing Extension Program (NJMEP), states, “Calibrating workforce supply and demand represents a significant challenge for publicly funded education and training partners, particularly in an industry sector like manufacturing.” Small companies dominate the market and these companies face significant market pressure to deliver on-time, without error, at competitive prices – all in the context of rapidly changing technology.

---

*Scaling the existing solutions will not adequately address the workforce issues in a rapidly changing technology environment dominated by small companies. We need to offer new solutions to problems that did not exist even a few years ago. We need to support a model that can keep pace with changes in technology.*

---

John W. Kennedy, Ph.D. - CEO of NJMEP

---

The Pro-Action Education Network™ represents a solution developed organically over time and in response to the challenges of employers to find qualified workers and the education and training partners to introduce employer-driven or industry-sector driven strategies.

#### The Emergence of the Pro-Action Education Network™

---

<sup>1</sup> New Jersey’s Forgotten Middle. National Skills Coalition Middle-Skill Jobs State by State. [www.nationalskillscoalition.org/state-policy/fact-sheets](http://www.nationalskillscoalition.org/state-policy/fact-sheets)

<sup>2</sup> Duvall, T., Kerlin, M. Ramos, P., Surak, Z. & Van Kuiken, S. (2017.) *Reseeding the Garden State’s economic growth: A vision for New Jersey.* McKinsey New Jersey Office.

<sup>3</sup> Shortage of Vo-Tec Trained Workers in New Jersey. August 16, 2017. Phil Gregory. Newsworks.org.

NJMEP, a private, non-profit intermediary organization and part of a national network of Manufacturing Extension Partnership (MEP) Centers, provides direct service to manufacturing companies - including training, and connects these companies to resource partners and initiatives that accelerate technology transfer, innovation, growth and profitability.

Each year, NJMEP interacts directly with over 3,500 employers through project engagements, training services, and events such as the State of the State of Manufacturing and Manufacturing Day. NJMEP leads the national network of MEP Centers in performance and has helped clients produce \$3.6 billion in realized value since 2000.

NJMEP found itself responding to gaps in the education and training system infrastructure. NJMEP cobbled together opportunistic partnerships to better address the needs of the manufacturing community. For example, during 2016 and 2017, NJMEP has delivered nearly 25,000+ hours of workforce training through 900+ separate workforce training engagements statewide and improved the competencies of more than 10,000 workers. Funding for these efforts include federal grants, state grants and employer fees.

A broader vision inspired NJMEP’s efforts. In 2011, NJMEP conceptualized the Pro-Action Education Network™ as a vehicle to blend and braid diverse funding streams and resource partners relevant to helping manufacturing companies. Figure 1 shows how NJMEP used the model to leverage its role as an intermediary and create more opportunities for

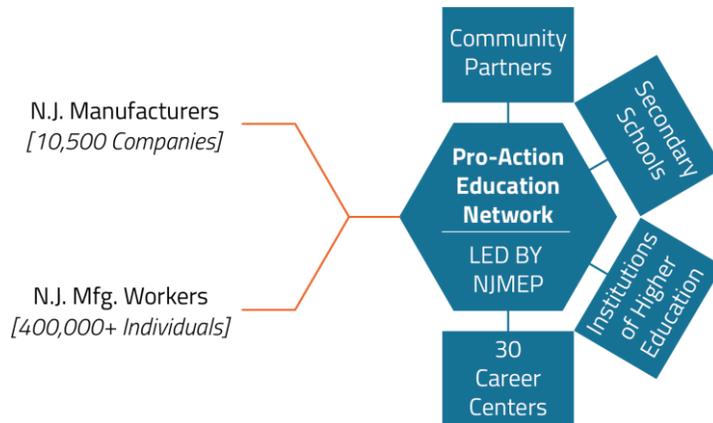
The model leverages the core functions of NJMEP:

- Assessment of market conditions and company needs
- Delivery of programs that increase the capacity of manufacturers to monitor and control key business functions
- Provision of industry specific training (e.g., OSHA safety, lean process, ISO certifications, leadership)
- Promotion of career pathway programs in collaboration with employers, industry leaders and education and training partners
- Facilitation of access to industry leading human resource professionals who help plan, implement and administer talent management solutions and strategies

More importantly, the model creates opportunities to more effectively pool employer demand from an industry sector dominated by small employers located across the traditional service territories of high schools, community colleges and career centers.

The Pro-Action Education Network™ model effectively creates a highly organized workforce “roundabout” where students, incumbent workers as well as the un- or under-employed can enter into an organized and industry responsive education and training nexus, circle (and build competencies), and exit at their desired point of departure – and address employer needs.

Figure 1. Leveraging NJMEP’s unique role in the manufacturing community



employers and partners to engage.

Figure 2 shows the core functions of the Pro-Action Education Network and how the concept creates

more synergy among and between partners with the goal to scale and simplify solutions for employers and students/workers.

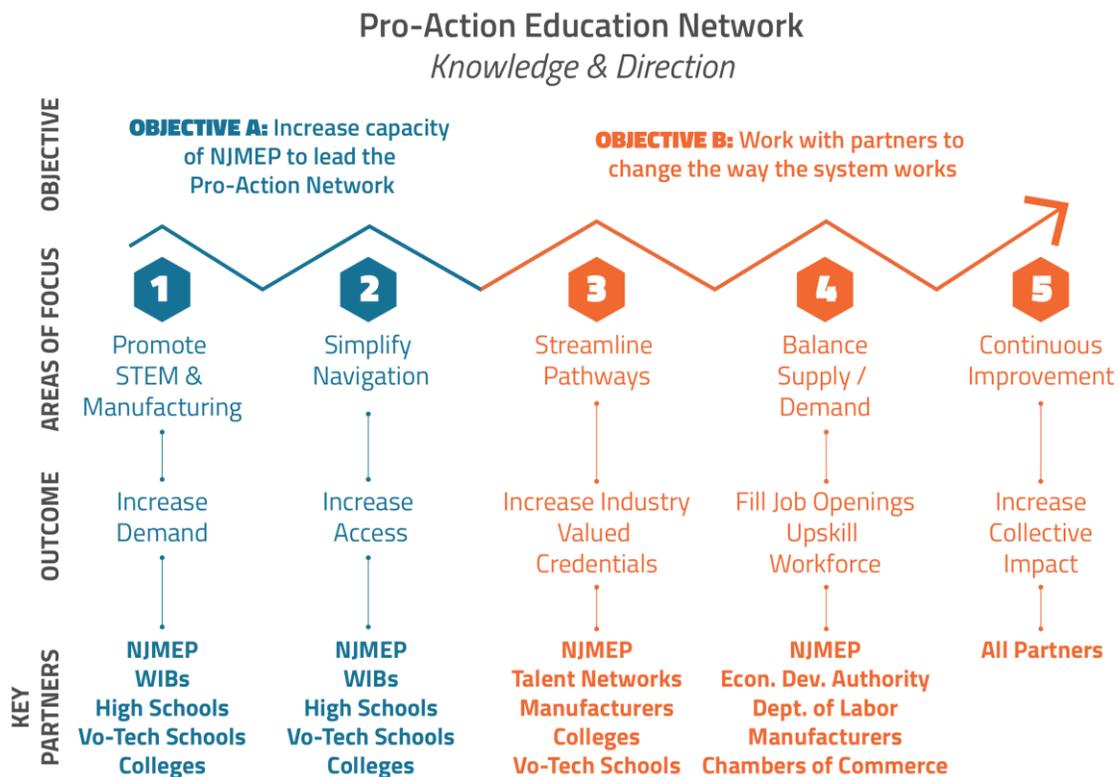
The Pro-Action Education Network™ responds directly to market demand and works collaboratively with other education and training partners. The model: a) involves employers in the design of the training curricula and in some cases employers assist in the delivery of the training; b) works directly with the institutions of higher education such as Thomas Edison State University (TESU) to organize materials in a manner that meets accreditation requirements so that institutions of higher education recognize these stackable credentials as part of a formal degree program (e.g., Manufacturing Tech Certification and Degree); c) holds strong working relationships with the state’s 19 community colleges and vocational high schools; and d) leverages resources with state agencies such as the New Jersey Department of Labor and Workforce Development (NJLWD).

credentials with educational credentials – effectively advancing workers along a career pathway and encouraging lifelong learning. Equally important, the Pro-Action Education Network™ model continues to spider into and connect with other initiatives that can stimulate meaningful, measurable system change.

Additionally, the model dovetails with efforts to promote manufacturing awareness (e.g., Manufacturing Day) and to cultivate an environment for policy makers and elected officials to invest in manufacturing. Recently, NJMEP, in collaboration with the New Jersey Business and Industry Association, re-invigorated the New Jersey Manufacturing Caucus. The Caucus will focus on supporting the manufacturing industry – including cross over activities in sectors such as life sciences and advancing the STEM talent development pipeline.

Exhibit 1 (page 6) describes a preliminary work plan.

Figure 2. Core functions of the Pro-Action Education Network and Partner Integration



To the greatest extent possible, the Pro-Action Education Network™ aligns skill competencies with industry credentials and aligns these industry

**More Productive Public-Private Partnerships and a Higher Return on Investment**

Currently, NJMEP finances the Pro-Action Education Network™ in an opportunistic way. For example:

- NJMEP has requested funding made available by the New Jersey Department of Labor and Workforce Development (NJLWD) to support Talent Networks. Talent Network funding can support a subset of functions such as employer engagement, market intelligence, pilot projects, and the development of new solutions. Talent Network funds cannot support training.
- NJMEP works collaboratively with Talent Development Centers (i.e., institutions of higher education), also funded by the NJLWD, and supports development of curriculum and facilitate training. Similarly, NJMEP works with institutions of higher education such as the Thomas Edison State University to create alignment with educational credits and to facilitate on-demand access through the online portal.
- NJMEP uses funds from NIST, employers, and NJLWD to deliver workshops and short-cycle training. NJLWD recognizes NJMEP on its Eligible Training Provider List to deliver training on industry credentials. This allows companies to access workforce training funds.

The funding constraints of each funding stream limit the extent to which NJMEP can build and better systematize the capacity of the model to effectively leverage resources. (Figure 2, Objective A shows an emphasis on capacity building.)

A pivotal dimension of whether or not a sector partnership succeeds relates to the skill and capacity of the convening organization to operate in a neutral manner and to facilitate the progress of the partnership without charting its course – the job of employers driving the effort. MEP Centers exist to engage and serve manufacturers as well as to optimize the involvement of resource partners relevant to the manufacturing ecosystem. MEP Centers can assist in planning and coordination, by offering one-on-one technical assistance and by offering learning opportunities (e.g., design meetings,

continuous quality improvement, measuring impact and customer experience).

### An Opportunity Exists to Change the Playing Field

An opportunity exists to allocate a portion of bond funds to enhance and expand the Pro-Action Educational Network™ and to create a workforce roundabout that benefits all constituencies.

Senate President Steve Sweeney intends to put a bond act on next year's ballot that would provide hundreds of millions of dollars to expand and equip New Jersey's vocational-technical schools. State Senator Sweeney acknowledges, "Not everyone is meant to go to college and there's nothing wrong with having a trade. We want to make sure that our vocational schools are equipped to work with businesses for the future to make sure that they have the employees that they want."<sup>4</sup>

NJMEP requests an earmark within the bond issue to build and scale the statewide, Pro-Action Education Network.™ A preliminary budget and work plan are available upon request.

According to the National Governors Association, "sector strategies are more responsive to industry demand than traditional job-matching and training services because they are problem oriented, not program oriented; address needs interdependently, not independently; and work with employers in an industry collectively, not as individual firms." A recent evaluation of the impact of sector initiatives on workers shows: decreases in poverty from 64% to 35%; increases in employer-offered health insurance plans from 49% to 73% and in paid sick leave from 35% to 58%.

Studies also indicate that sector initiatives are effective mechanisms for employers to stay competitive. A third party evaluation of sector initiatives in the State of Massachusetts showed that 41% of the employers surveyed reported that participating in the sector initiative led to a reduction in turnover; 19% reported a reduction in rework; 23% reported a reduction in customer complaints; and 100% of companies reported that partnerships with other companies and public institutions were valuable.



### Contact John W. Kennedy for Additional Information

**John W. Kennedy, Ph.D.**  
Chief Executive Officer  
New Jersey Manufacturing Extension Program, Inc.  
2 Ridgedale Ave, Suite 305  
Cedar Knolls, NJ 07927  
Tel. 201-506-0642  
Email: [jkennedy@njmep.org](mailto:jkennedy@njmep.org)

### About NJMEP

The New Jersey Manufacturing Extension Program (NJMEP) is a private, not-for-profit organization that improves the profitability and competitiveness of New Jersey's manufacturers. NJMEP: a) maintains relationships with 3,500+ manufacturers and diverse partners (e.g., industry associations, higher education, economic development, workforce development, policy makers); b) operates as part of national network of MEP Centers located in all 50 states and Puerto Rico; and c) currently ranks as the top MEP Center in the nation based on independently surveyed MEP Center system performance metrics.

NJMEP operates as a trusted business advisor to manufacturers and as a valuable intermediary that can match appropriate resources across six key strategies: strategic planning; engagement planning (people, products & process); human resources; manufacturing strategy; logistics and transportation; and information technology. The organization's impact metrics tell a compelling story. Since 2000, NJMEP has worked with nearly 4,000 manufacturers leading to significant return on investments, such as: \$3.6 billion in realized value; increased sales/revenue (\$2.64 billion); capital investments (\$600 million); process cost savings (\$369 million); and jobs creation and retention (31,122).

## Exhibit 1. Example Work Plan to Scale the Pro-Action Education Network

Figure 3 (page 7) shows a logic model that shows the situation, goals, objectives, primary deliverables and outcomes. The subsequent paragraphs provide additional information about deliverables and activities for each objective.

### *Objective A. Increase capacity of NJMEP to implement dynamic functionality of the Pro-Action Network™ model into an overall talent strategy.*

Presently, the NJMEP Pro-Action Education Network model operates opportunistically by addressing emerging or unfilled gaps that address the immediate needs of the manufacturers. A New Jersey Talent Development Network (funded by the New Jersey Department of Labor and Workforce Development) holds the responsibility to “survey” industry needs, maintain a list of industry-valued credentials and information relevant to career pathways.

NJMEP proposes to introduce more dynamic features to this approach that create more “real-time” feedback loops relevant to identifying industry needs – current and emerging. Additionally, NJMEP proposes to develop a resource map and inventory that identifies opportunities to streamline and coordinate survey delivery across education and training providers offering certifications and credentials. Presently, job seekers face the challenge of understanding a complex delivery system (e.g., 19 community colleges, NJDLWD Eligible Training Provider List, national online options) and identifying how course offerings will result in competencies and credentials valued by industry.

NJMEP will use additional funding to support a program coordinator who will complete several important data collection tasks that will lead to a more dynamic online STEM talent development and acquisition portal to support Pro-Action Education Network activities. This includes: a) developing a database and inventory of statewide advanced manufacturing education and training offerings, certificates and degrees; b) identifying relevant (existing and potential) options for online assessments (e.g., STEM career interest); c) documenting existing efforts (and other national models) for professional development to career counselors (e.g., education, career centers); and d) assessing capacity and capabilities of the Pro-Action Education Network to track participants through training.

NJMEP will work closely with the NJ Talent Development Network partners to complete these tasks. The NJMEP Workforce Development team members will assist with these tasks particularly those that result in NJMEP increasing capacity to support the new, dynamic features of the model.

NJMEP will convene a project advisory group comprised of leaders (or designees) from collaborative partners. These partners will facilitate access to information and will assist in developing forward-looking solutions and opportunities for innovation.

Ultimately, these activities will create the foundation for a more dynamic and transformative education and training system, particularly as it relates to promoting manufacturing careers and assisting participants in navigating information relevant to training, education and employment opportunities.

### *Objective B. Work collaboratively with Pro-Action Education Network partners to improve and transform the education and training delivery system in response to employer demand.*

Completed activities from Objective A will inform the activities associated with Objective B. The Pro-Action Network™ intends to organize workforce development efforts into more dynamic and coherent sector strategies that creates a more productive and user friendly environment for the “demand” side of the equation (e.g., employers and workers). This will require system change.

For example, currently, educational institutions define demand as “sufficient enrollment to actually hold a class”. The New Jersey DWLD offers training opportunity partnership grants to providers who can document job openings (i.e., employer letter), recruit eligible dislocated workers from Career Centers, train participants on industry valued credentials and place individuals into jobs. This model requires education and training providers to perform



activities outside of their core business model. For example, training providers must conduct marketing and recruitment to job candidates and employers plus perform job placement and retention activities.

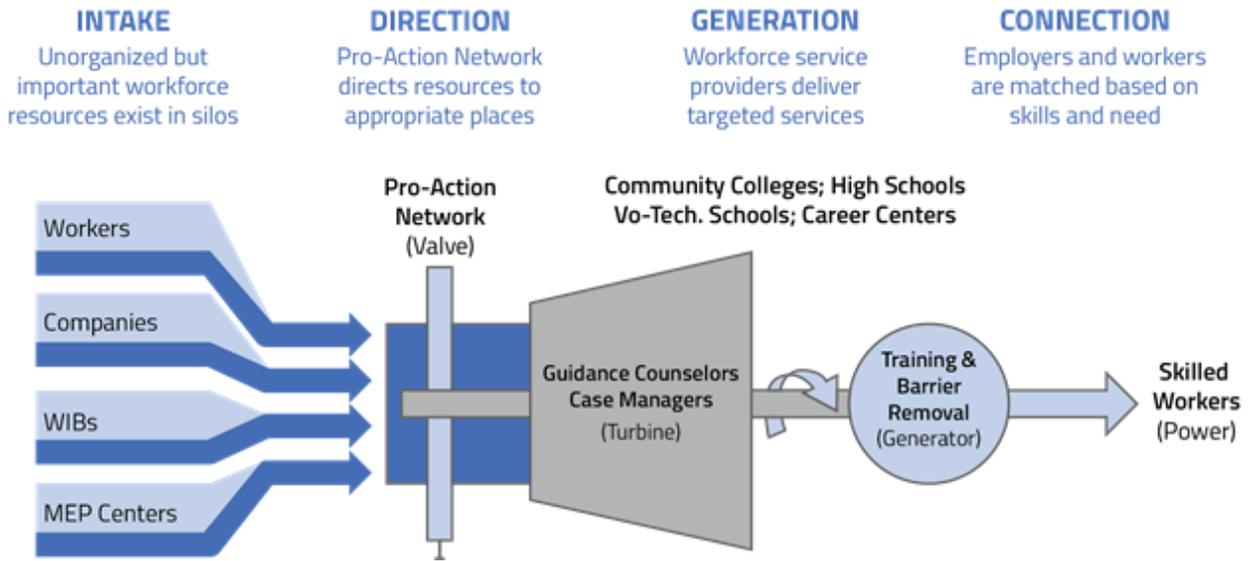
Figure 3. Logic model to Scale the Pro-Action Education Network

| Situational Analysis  | Goal & Impact   | Objectives  | Primary Deliverables   | Outcomes   |
|---|---|---|--|--|
| <ul style="list-style-type: none"> <li>428,902+ unemployed and underemployed persons in New Jersey<sup>5</sup></li> <li>10,500 manufacturing companies in New Jersey</li> <li>WIOA Legislation shifts the focus from supply to demand, requiring employer engagement and sector-based workforce strategies</li> <li>Manufacturers throughout the country reporting difficult finding skilled and interested workers</li> <li>The Existing STEM workforce training infrastructure, while plentiful and robust, is often disorganized, duplicative, and inefficient</li> <li>A national infrastructure exists (MEP Centers) to facilitate widespread adoption of a rapid-cycle STEM talent development model</li> <li>MEP Centers operate as unique intermediary, positioning them to coordinate workforce training and placement services</li> <li>NJMEP Center and partners operate Pro-Action Network model to address immediate industry needs (and system gaps)</li> </ul> | <p><b>GOAL.</b> The New Jersey MEP Center (NJMEP), in collaboration with diverse partners, will enhance the Pro-Action Education Network model and position it to transform the state’s manufacturing talent development initiatives.</p> <p><b>IMPACT.</b> The broader Impacts relate to the positioning of education and training stakeholders to perform critical roles in manufacturing talent development strategies that fuel manufacturing innovation and growth and support high quality, high paying jobs.</p> | <p><b>A.</b> Increase capacity of NJMEP to implement dynamic functionality of the Pro-Action Network model into an overall talent strategy</p>                            | <ul style="list-style-type: none"> <li>Online STEM talent development and acquisition portal to support the Network activities</li> <li>Inventory of statewide STEM and advanced manufacturing education and training</li> <li>Develop online access to content such as student/worker assessments (e.g., STEM career interest)</li> <li>Deliver professional development to career counselors (education, career centers)</li> <li>Capacity to track participants through training</li> </ul>   | <ul style="list-style-type: none"> <li>Prioritize areas to improve delivery system (e.g., training gaps, geographic coverage)</li> <li>Improve navigation for all customers</li> <li>Improve access to content (e.g., assessments, offerings)</li> </ul>   |
|   |   | <p><b>B.</b> Work collaboratively with Pro-Action Network Partners to improve and transform the education and training delivery system in response to employer demand</p> | <ul style="list-style-type: none"> <li>Review and redevelop training/educational processes to increase efficiency (e.g. coordination between community colleges and vocational technical schools) &amp; rapid cycle curriculum development</li> <li>Employers access training opportunities and connect with skilled workers</li> <li>Engage regional high schools to encourage STEM content in classwork and generate interest in manufacturing career pathways</li> <li>Student/workers directed to appropriate community college/vo-tech training</li> <li>Engage employers to offer internship and apprenticeship opportunities</li> <li>Teacher/Instructor preparation and development</li> </ul> | <ul style="list-style-type: none"> <li>Develop rapid cycle protocols to develop and approve industry valued, stackable credentials</li> <li>Increase coherency of degree programs, certificates and credentials across institutions of higher education and providers</li> <li>Influence delivery and offerings based on demand</li> <li># participants completing credentials</li> <li># participants advancing along education and training / career pathways</li> </ul> |
|   |   | <p><b>C.</b> Evaluate, sustain and scale the model</p>  | <ul style="list-style-type: none"> <li>Develop business model and organize/blend diverse funding sources</li> <li>Utilize project data and outcomes to scale model (to other industry sectors)</li> <li>Produce presentations and briefing documents to inform stakeholders and investors</li> <li>Ongoing surveys of students, instructors, and employers will provide important feedback to make any necessary modifications to the model</li> </ul>   | <ul style="list-style-type: none"> <li>Business plan</li> <li>Briefing papers and presentations documenting results</li> <li>Collaborative model</li> <li>Diverse funding sources</li> </ul>   |

<sup>5</sup> Alternative Measures of Labor Underutilization for States (U.S. Bureau of Labor Statistics - U-6, 2016-2017), <https://www.bls.gov/lau/stalt.htm>

The Pro-Action Education Network holds this capability and functionality by virtue of NJMEP’s demand-driven model. Figure 4 illustrates how the propose project will stimulate “system” change among partners to create a more dynamic and responsive talent development strategy.

Figure 4. Refining partners roles and responsibilities to develop a more dynamic and responsive delivery system



The sector-based Pro-Action Education Network model organizes, coordinates, and amplifies demand in a more productive way by offering a methodology to translate and to aggregate industry demand into a more coherent education and training delivery system that leverages community college resources and the online technology platform of the TESU.

Additional funding will support the project coordinator and the NJMEP’s Director of Open Enrollment to: a) Review and redevelop training/educational processes to increase efficiency (e.g. coordination between community colleges and vocational technical schools) & rapid cycle curriculum development; b) identify opportunities for employers to more effectively and efficiently access training opportunities and connect with skilled workers; c) engage regional high schools to encourage STEM content in classwork and generate interest in manufacturing career pathways; d) Implement actions to direct student/workers to appropriate community college/vo-tech training; e) increase the number of internship and apprenticeship opportunities; and f) identify areas to bolster teacher/instructor preparation and development (e.g., industry externships).

NJMEP will convene a project advisory group comprised of leaders (or designees) from collaborative partners. These partners will facilitate access to information and will assist in developing forward-looking solutions and opportunities for innovation. The Principal Investigator (NJMEP CEO) will play a critical role in engaging collaborative partners.

These efforts to streamline the talent development process will result in efficiency gains within academic institutions such as more responsive training for companies and easier access to the trainings (e.g., avoid situations where colleges market a course only to be forced to cancel it when too few students enroll), better quality courses (e.g., find the best instructors and funnel demand to the best programs), and training for career and educational counselors (e.g., career pathways, training opportunities).



*Objective C. Evaluate, sustain and scale the model*

The Pro-Action Education Network model operates in its present form as a financially viable model. This model, however, reinforces a “transactional” approach to delivering training services in response to market demand. The business and financial model will require adjustment to support additional functionality and responsibilities (e.g., coordination) similar to that of a backbone organization that supports a collective impact model. Additional funding will support the additional functionality and responsibilities required to implement the model.

NJMEP and the project advisory group will develop a sustainability model that takes into consideration the use of existing resources (e.g., fees, tuition, scholarships, grants). NJMEP’s Chief Operating Officer will oversee the development of a business plan that addresses sustainability and scalability. Scalability relates to in-state efforts (e.g., curricula sharing, replicating across other industry sectors) as well as replicating the model to other MEP Centers across the national MEP Center network.

NJMEP will retain an independent evaluator who holds expertise in assessing sector strategies and/or collective impact strategies.

*Timetable*

NJMEP will complete these activities within 24 months of project start. Tasks associated with Objective A will take priority for the initial six months.