BUILDING AN INDUSTRY INFINITY SUPPLY CHAIN

a) Statement of Need

1) Demonstration of Current and Future Demand

To understand Industry 4.0, you have to "Imagine a world in which engineers can interact with 3D models in an immersive environment, where machines and products communicate with each other, and where products wend their way independently through the production process. This is Industry 4.0, the Fourth Industrial Revolution, defined as the convergence of digital and physical technologies disrupting the manufacturing industry and being realized today in smart factories across the globe."[1] Industry 4.0 was defined several years ago, and now experts are beginning to refer to Industry Infinity which recognizes that a continuous industrial innovation and revolution is underway. Information technology is integrated throughout Industry 4.0 with an emphasis on cybersecurity and robotics and automation, two of eight Industry 4.0 technology sectors recognized by Automation Alley, and the focus of this H1-B One Workforce strategy. In Southeast Michigan, high growth advanced manufacturing and cybersecurity H-1B occupations include, but are not limited to, software developers, CNC programmers and operators, industrial mechanics, electro-mechanical, industrial and mechanical engineering technicians, commercial/industrial designers, and various welders. In 2019, there were over 160,501 unique jobs posted by employers in Southeast Michigan related to the 48 middle and high skill occupations identified by the Industry Infinity partners (Emsi Job Posting Analytics, 2020). Of the total jobs posted, 64.8 percent of those that indicated a required minimum level of education desire candidates with a post-secondary certification, degree, or industry-recognized credential.

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[1] https://automationalley.com/Knowledge-Center/What-is-Industry-4-0.aspx

The need for upskilling to keep pace with technological advancement is an undeniably tough challenge, in every industry including transportation. Michigan Governor Gretchen Whitmer has been vocal about the poor condition of Michigan's roadway systems and the need to fix the roads – but, the skills gap must be fixed first. According to a recent Brookings Institute article, "physical infrastructure systems are aging and in need of attention as well as the workers who design, construct, operate, and oversee these systems. The problem is that many transportation industry workers are nearing or are eligible for retirement, and there is not a strong training pipeline to educate and equip a new generation of talent with the skills they need." "In 2018, just 13 percent of infrastructure workers had a bachelor's degree or higher, compared to 37 percent of all workers nationally. And more than half—54 percent—had a high school diploma or less. Although managers, engineers, and several infrastructure workers demand more advanced degrees, most technicians, mechanics, and other workers do not. Instead, many of these workers require more extensive on-the-job training and develop competencies in a wide range of transferable skills, including mechanical, technical, and scientific knowledge."[2] According to data and research from the Workforce Intelligence Network for southeast Michigan (WIN), transportation safety occupations are projected to grow eight percent between now and 2028; while all occupations in the State of Michigan are projected to grow six percent. The average wage for transportation safety occupations is $29.56; and all occupations in the State of Michigan register an average wage of $23.17. In 2018, there were 36,043 openings (for both growth and replacement openings) for these occupations, but the number of 2017 completions

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[2] *Aging and in Need of Attention: America's Infrastructure and its 17 Million Workers,* Brookings Institute, April 16, 2019.

was only 32,428, meaning that supply will undercut demand over the next ten years by 3,615 per year. In 2018, there were 97,633 job postings for transportation occupations.

The Michigan automotive industry, directly and indirectly, employs more than 712,000 workers which contributes over $225 billion to the State's economy. The Michigan automotive manufacturing sector, directly and indirectly, employs nearly 473,000 workers and contributes approximately $188 billion to the economy.[3] The manufacturing supply chain in the region is critically sensitive to changes in original equipment manufacturer (OEM) production schedules and the ripple effect of an economic downturn, such as the Coronavirus pandemic, far extends into nearly every other industry sector throughout the region, and arguably the nation.

During the COVID-19 pandemic, WIN, with the Southeast Michigan Community Alliance (SEMCA) as its fiduciary, was contacted to convene the Michigan Alliance for Greater Mobility Advancement (MAGMA) by the U.S. Department of Labor Assistant Secretary John Pallasch, to gauge the impact of COVID-19 on automotive and manufacturing supply chain production demands and the national economy. MAGMA has a Governing Board comprised of industry, educators, the workforce development system, and state government. MAGMA focuses on the Michigan automotive industry's rapid expansion into developing technologies around connected and autonomous vehicle systems, cybersecurity, embedded software systems, and other emerging technologies, and the relative growth need in secondary and postsecondary educational programs, work-based learning, certification training, and degree programs. In 2011, community colleges and workforce development boards in southeast Michigan identified a need to work collaboratively to achieve greater impact in responding to changing labor market demands by

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[3] MICHAuto 2019 *Michigan's Automotive Industry: Measuring its Contribution to the Economy* report.

establishing the Workforce Intelligence Network for southeast Michigan (WIN). WIN activities focus on labor market data and research and employer convening activities that inform workforce programs and curriculum development. In 2017, the **Ralph C. Wilson Jr. Foundation** recognized the need to develop the tech hub in the metro Detroit area and provided WIN a $1.5 million grant supporting information technology apprenticeships. A second grant was also provided to develop the recently published *2020 Cybersecurity Emerging Technology Skills Gap Analysis* and *2020 Connected Automated Vehicle Emerging Technology Skills Gap Analysis* reports, which are an update and integration of the **U.S. Department of Defense (US DOD)** funded *2017 Cybersecurity Skills Gap Analysis and 2017 Connected Automated Vehicle (CAV) Social Network Analysis,* developed by the WIN data and research department. Since the DOD grant initiative, it became evident from discussions with representatives of U.S. Senator Debbie Stabenow and U.S. Senator Gary Peters that cybersecurity is likely the most critical factor to the overall Michigan economy since the entire manufacturing supply chain must be secure for connected automated vehicles on roadway systems. The H-1B One Workforce Grant is the first opportunity that has prompted WIN's eight community college and six workforce agency partners to commit to developing a regional cybersecurity training strategy.

2) Populations Served

The target population to be served will include underemployed, unemployed, and incumbent workers from the six **Workforce Innovation Opportunity Act (WIOA)** workforce development boards in southeast Michigan. Local Area Unemployment Statistic (LAUS, 2020) data indicates that 316,629 individuals were unemployed in the region between January and September 2020, for an unemployment rate of 11.5 percent.

WIOA workforce Region 6 is comprised of Genesee, Huron, Lapeer, Sanilac, Shiawassee, and Tuscola counties which is administered by GST Michigan Works! (GSTMW!) and has a history of collaboration with MWAs in WIOA Planning Regions 9 and 10. According to the 2019 Census estimate, the region's population has 658,938 individuals, which is approximately 6.9 percent of the State's population. Local Area Unemployment Statistic (LAUS, 2020) data indicates that 26,341 individuals were unemployed at some point between January and September 2020. In August 2020, Region 6 had 15,772 job postings, an increase of 2,456 postings since June 2020. **WIOA workforce Region 9** is administered by Michigan Works! Southeast and is comprised of Hillsdale, Jackson, Lenawee, Livingston, and Washtenaw counties in Michigan. The 2019 Census estimate puts the region's population at 862,162, or 8.6 percent of the State's population. In 2019, the workforce had 401,696 workers which grew by 6,766 workers, for a year-to-date 2020 workforce of 408,462 workers. Local Area Unemployment Statistic (LAUS, 2020) data indicates that 28,657 individuals were unemployed at some point between January and September 2020. In August 2020, Region 9 had 28,631 job postings. **WIOA workforce Region 10** consists of the City of Detroit and the counties of Macomb, Monroe, Oakland, St. Clair, and Wayne. The 2019 Census estimate puts the region's population at 4,190,000 or 42 percent of the State's population. The workforce in Region 10 increased by 17,731 individuals over the past year and totals 1,953,709 workers. Since the initial pandemic shut down in March, employer demand in the region began to recover sooner than others with postings trending upwards beginning in May. In August, there were 131,296 postings for workers, an increase of 9,680 postings since May. In the City of Detroit, the population is currently well below the regional average for educational attainment, according to 2018 data from the Census Bureau. In the City of Detroit, 14.6 percent of individuals hold a

bachelor's degree or higher, compared to 28.6 percent statewide. The current educational attainment levels in the City of Detroit, WIOA Planning Region 10, and the state of Michigan do not align with employer needs. Too few individuals are prepared for in-demand jobs as more employers require higher skills for employment. As a whole, the region's H-1B workforce related to advanced manufacturing, IT, and cybersecurity includes 69,895 women (22.5 percent) and 240,749 men (77.5 percent), of which 74.0 percent are white, 10.9 percent identify as Black or African American, and 10.0 percent identify as Asian. Additionally, 10,010 individuals (3.3 percent) identify as having a Hispanic or Latino ethnicity. Perhaps most notable is that 23.3 percent of current workers are over the age of 55. This aging workforce suggests a need for experienced workers to train and upskill the incoming talent as soon as possible throughout greater southeast Michigan to retain institutional trade knowledge.

b) Expected Outcomes and Outputs

It is evident that there is a significant labor shortage in industries critical to the Michigan economy and the WIN network is ready to respond. WIN college and workforce agency professionals have been collaborating for years to achieve nationally recognized outcomes through a coordinated approach to delivering training certification programs, pre-apprenticeship, and registered apprenticeship programs that lead to employment for a significantly higher rate of unemployed and underemployed than the State average. As an example, the **US DOL ETA AAI Advance Michigan Center for Apprenticeship Innovation (AMCAI)** grant has achieved 664 registered apprentices, with 33% of the total participants served from unemployed and underemployed population groups.

The southeast Michigan region is the State's largest population of long-term unemployed and underemployed. Experience has shown that this population is hard to reach and harder to engage.

Transportation is a workforce barrier regularly identified through MWA interactions with job seekers since gas and cars are expensive, and little public transportation exists outside central cities. Other barriers limiting the employability of job seekers included the lack of soft skills/employment support like interview skills, resume development, general presentation/ communication/timeliness skills, and the lack of "gap" funding to cover basic needs like childcare, food, shelter while training is underway. The ***Building an Industry Infinity Supply Chain*** community college and Michigan Works! network of partners will achieve the proposed target outcomes in the attached **Performance Outcome Measurements Table** by using the same equipment, curriculum, resources, and system that has been successfully deployed with the America's Promise and American Apprenticeship Initiative grant programs and expanding these practices into the focused cybersecurity, information technology, and transportation, distribution, and logistics (TDL) occupations.

1) Participant Training and Employment Performance Outcomes

This proposal focuses on H-1B middle and high skill occupations in advanced manufacturing, information technology, and transportation industries. The full occupation focused training lists are provided in Appendix A: Manufacturing, Information Technology, and Transportation Industry Occupations. Among the 48 middle and high skill occupations identified, Emsi data indicates that 53.1 percent currently require either an associate or bachelor's degree, 10.0 percent require a high school diploma or equivalent coupled with short-term to long-term on-the-job training, and most require some combination of these qualifications. As manufacturing occupations shift from manual production functions to machine programming and supervisory roles, this post-secondary education requirement is expected to rise. According to Emsi, between 2020 and 2030, about 27,000 openings per year are projected in the region's H-1B occupation

pathways. Many of the top-growing and highest-paying occupations require some level of post-secondary credential and, according to Emsi data, there were only 19,535 related educational completions reported in the region during the entirety of 2019. Employment in these specialty advanced manufacturing, IT, and cybersecurity occupations, as well as in the region's manufacturing industry, has grown to over 302,000 workers so far in 2020. These workers comprise about 11.8 percent of the region's total workforce, as compared to the State of Michigan, where these occupations make up 10.4 percent of the total workforce. Though growth in the manufacturing industry overall is expected to slow to only a small expansion each year, there are still many openings due to the replacement of low skill, low-wage positions with higher-wage, middle and high skill occupations. Thirty of the 48 occupations offer median wages of more than $30 per hour, with an overall median of $35.38 per hour, or about $73,590 annually.

The ***Building an Industry Infinity Supply Chain*** partners have analyzed previous performance outcomes, employer demand, and commit to delivering: 1) 850 participants served; 2) 750 participants enrolled in education/training activities; 3) 650 total participants who complete education/training activities; 4) 625 total participants who complete education/training activities and receive a degree or other type of credential; 5) 375 unemployed and underemployed participants who complete education/training activities and obtain employment; and 6) 200 incumbent worker participants who complete training activities that advance into a new position. The proposed performance outcomes are based on the America's Promise outcomes, taking into account one less year to achieve them, no scaling or development needed for the robotics and automation certification training programs, but also the need to assess and develop some new degree and certification training programs in transportation and cybersecurity. Performance

metrics include tracking the employment rate after the second and fourth quarters from the completion of an education/training engagement. Achieving successful performance outcomes begins with the six **Michigan Works! agencies** that are partnered in this grant, including Southeast Michigan Community Alliance (SEMCA), GST Michigan Works, Michigan Works! Southeast (MWSE), Macomb/St. Clair Workforce Development Board (MSWSD), Oakland County Michigan Works! (OCMW!), and the Detroit Employment Solutions Corporation (DESC). The role of each Michigan Works! partner includes: 1) outreach and promotion to their clients (of which a substantial number are unemployed, underemployed, and non-traditional populations); 2) conducting assessments; 3) identifying remediation needs (including basic skills and/or industrial readiness) and; 4) directing participants to training, primarily through the eight community college partners. The Michigan Works! agencies also will track participants' success through the training, support participants' placement, and report outcomes. MWAs will serve as the primary recruiters and case managers for this project and provide braided funding with other programs such as the Going Pro Talent Fund (GPTF), Michigan Department of Corrections (MDOC), and Michigan Rehabilitative Services (MRS). MWA recruitment will include outreach to employers and potential trainees. Each Michigan Works! agency will contract with the training entity that best meets the needs of the job seeker and employers. The eight community college partners in southeast Michigan region that will serve as the preferred training providers under the proposal are: Henry Ford College, Macomb Community College, Monroe County Community College, Mott Community College, Oakland Community College, Schoolcraft College, Washtenaw Community College, and Wayne County Community College District. These institutions of higher education will work with Michigan Works! case managers to ensure positive programmatic outcomes, provide faculty, equipment, curriculum, project-based and

academic learning, remediation, and other support for the education and training of targeted individuals; 2) support Michigan Works! agencies in providing soft and basic skills training; 3) report on training outcomes and create opportunities to support student placement with employers; (4) work to ensure successful delivery of training; 5) support recruitment of employers and potential trainees into the program. The community college network has certification and degree programs that can be used to place entry-level job seekers on a career path for middle-skills and high-skills occupations, as well as upskill incumbent workers with updated technical curriculum program offerings. The credit and non-credit training program list is expected to change during the grant since the intent is to work collaboratively with the business community to develop new curriculum and program offerings to support industry needs. The SEMCA WIN team developed an articulation policy that was provided to community college partners during the final year of the AAI grant which will be leveraged for this program.

2) One Workforce Program Outputs

The *Building an Industry Infinity Supply Chain* partners are confident that the proposed workforce training approach will yield results and continue to stand as an exemplary example of a replicable workforce solution. As mentioned above, the planned training model is based on successful models previously utilized by the workforce and training partners which include effective feedback mechanisms and corrective action plans. Recent employer engagement activities in several occupations are proof of concept for continued regional training activity in robotics and automation, a new regional training strategy for key transportation occupations, and cybersecurity. The college partners provided an occupation list with credit and non-credit certificate and degree programs for cybersecurity, transportation, and robotics and automation training based upon enrollment and employer demand. The *Building an Industry Infinity*

Supply Chain partner goals are to: 1) to increase the number of un/underemployed, non-traditional, incumbent and other workers receiving certification training in advanced manufacturing, IT and transportation occupations in the region; 2) provide funding to support targeted outreach and case management of hard-to-serve populations; 3) establish and expand the availability of training programs to improve access for program participants and ensure high quality materials, facilities and curriculums for training providers; 4) increase the number of trained workers with access to middle and high-wage earning opportunities through demonstrated employer commitments to new hire and incumbent workers; 5) develop clear and achievable career pathway strategies in manufacturing, IT, and transportation; 6) establish, sustain, or expand employer collaboratives to engage industry leaders into an expanded role of providing work-based learning opportunities; updating curriculum; creating certification training programs; and training jobseekers and incumbent workers for upskilling into middle-to high skill occupations; and 7) provide resources to help workforce development partners, training partners and employers braid, leverage and ultimately maximize all available funding in order to minimize cost to program participants and place workers in middle-skill and high-skill occupations. Sustainability is multi-faceted and will be focused on establishing standard operating procedures to maintain the integrity of training and program delivery long-term, and funding strategies which range from establishing an employer membership dues structure to support personnel in maintaining a regional initiative to obtaining mission and geographically aligned private foundation or corporate grants. WIN developed a sustainability plan associated with the USDOL ETA AAI grant, and last month, upon request from the USDOL, was a featured speaker to advise Closing the Skills Gap apprenticeship grantees on how to begin program sustainability efforts. ***Attached is a copy of the Advance Michigan Center for Apprenticeship***

Innovation (AMCAI) Sustainability Report, April 2020. The SEMCA WIN MAGMA program is a sustainability success story that has been funded through State funds, Federal funds, and employer membership dues to sustain the employer collaborative for approximately ten years.

c) Project Design

The *Building an Industry Infinity Supply Chain* strategy will: 1) Expand employer, government, and association partners in advanced manufacturing, information technology, and TDLsectors that otherwise would not be developed; 2) develop career pathways to the industry infinity transformative technology occupations that are advancing well beyond the fourth generation recognized by Industry 4.0; 3) develop curriculum to support new credential and degree programs in support of the targeted occupations; 4) work with industry leaders to develop skills and competency-based occupation frameworks by utilizing and expanding RapidSkills Generator; 5) deliver high-quality training to prepare job seekers and incumbent workers for targeted middle-skill and high-skill occupations; 6) provide supportive services through the Michigan Works! partners to enable job seekers to obtain training activities which leads to employment; 7) facilitate and manage employer collaboratives to assist with developing and delivering training and work-based learning programs; 8) review, track, monitor, and report on program performance; and 9) develop a sustainability plan to maintain employer collaboratives and training programs.

1) Sector Strategies and Workforce System Alignment

In 2019, the **Center for Automotive Research (CAR)**, with WIN as a subrecipient, was awarded the **Michigan Department of Transportation** *High-Tech Workforce Preparation for Emerging Transportation Technologies* grant to research and analyze transformative technology, which has already resulted in the publication of the draft reports: 1) *High-tech*

Workforce Preparation for Emerging Transportation Technologies Task 1: State of Practice Review for Transformative Technologies, July 2020; and 2) *High-tech Workforce Preparation for Emerging Transportation Technologies Task 2: Recommendation for Ideal Core Competencies Needed at MDOT and MDOT's Organizational Structure, July 2020.* WIN is currently utilizing the CAR tasks 1 and 2 research reports to conduct WIN tasks 4 and 5 of developing a training and recruitment strategy for the transportation on a timeline of August 2020 through June 2021. WIN personnel are certified in the **U.S. Chamber of Commerce Talent Pipeline Management (TPM)** process and will utilize this methodology of applying supply chain management principles to talent to convene MDOT internal and external partners for the development of the transportation training and recruitment strategy for Michigan. ***High-Tech Workforce Preparation for Emerging Transportation Technologies*** is a leveraged State grant, and a **commitment letter from the State of Michigan Department of Transportation (MDOT) is included in the attached file** to support this project with: 1) participation on a new **Transportation Industry Infinity Work Group** that would be developed; 2) transportation training and recruitment strategy updates; 3) occupation updates; 4) input for community college curriculum development updates; 5) input for industry credentialing needs; 6) assistance with training cohorts and scheduling; 7) virtual job fairs; and 8) creating and updating RapidSkills Generator competency-based occupation frameworks for apprenticeships. The miapprenticeship.org website is an established apprenticeship hub that was developed through the USDOL AAI grant and continues to be used with the ***US DOL ETA Apprenticeship: Closing the Skills Gap*** grant through March 2024. The traffic that it generates could bring more employers to the network in support of the ***Building an Industry Infinity Supply Chain*** project. Cross-pollination is also expected with a ***Jobs for the Future Opportunity Youth*** training

assistance grant to target the youth population between 16 and 24 years of age into pre-apprenticeship which leads to registered apprenticeship. This proposal excludes apprenticeship for the manufacturing industry since this activity is supported in the ***US DOL ETA Apprenticeship: Closing the Skills Gap*** grant. Pre-apprenticeship, cybersecurity, and robotics and automation certification training are the focus of the proposal in the manufacturing sector. ***Building an Industry Infinity Supply Chain*** partners have been recognized for performance outcomes in the ***US DOL ETA America's Promise Catalyst*** grant. All 14 *Catalyst* partners, which serve on the WIN Board of Directors, invested in equipment and curriculum development of middle-skills certification programs and developed processes for the successful delivery of training cohorts. Employer demand in the Catalyst robotics and automation training cohorts has experienced steady growth since 2015 and Michigan Works! partners continue to receive demand from both industry and job seekers.

2) H-1B One Workforce Partnerships: Employer and Industry Engagement
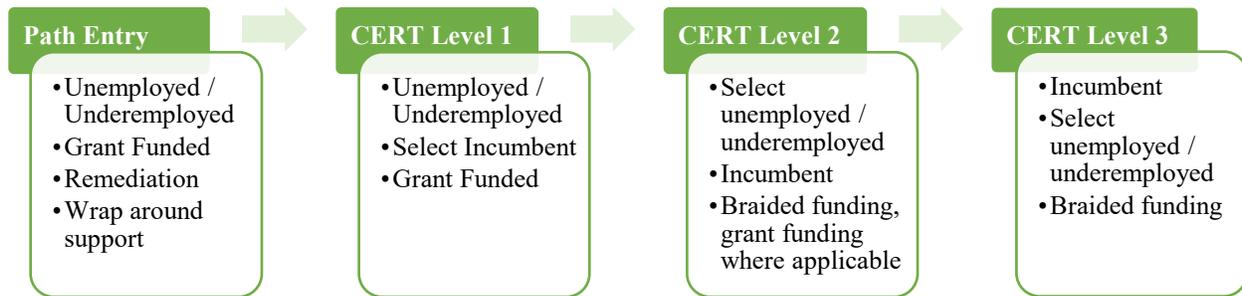
 The SEMCA Workforce Intelligence Network is a recognized convener of employer collaboratives in Michigan and has had proven success with the **Michigan Alliance for Greater Mobility Advancement (MAGMA), Experience IT,** and **Opportunity Detroit Tech**. In 2019, the State of Michigan reached out to WIN to co-convene the **Health Career Alliance (HCA)** with approximately a half dozen major healthcare systems. WIN has numerous workforce websites, social media, and an e-newsletter to promote regional workforce initiatives to thousands of industry leaders in various sectors throughout Michigan. WIN has and would organize and manage the customer outreach activities on behalf of its partners to avoid duplication of effort and increase effectiveness. Community college and workforce development board partners have personnel devoted to employer engagement for key workforce development

projects, websites, and customer relationship management databases of thousands of business contacts. As part of the Detroit at Work TechHire program funded by Ralph C. Wilson Jr. Foundation, the DESC industry engagement team has engaged more than 25 employers that exist across the IT sector and other industries with major IT talent needs. An IT Employer Council represents a diversity of companies to inform Detroit at Work investments in IT training pathways and provide support for training partners. TechHire has placed 375 Detroiters in IT careers since 2016. A total of 48 support letters from education, workforce, employer, government, and non-profit associations were provided for this application with approximately $4 million in leverage contribution and $400,000 of this amount from the business community.
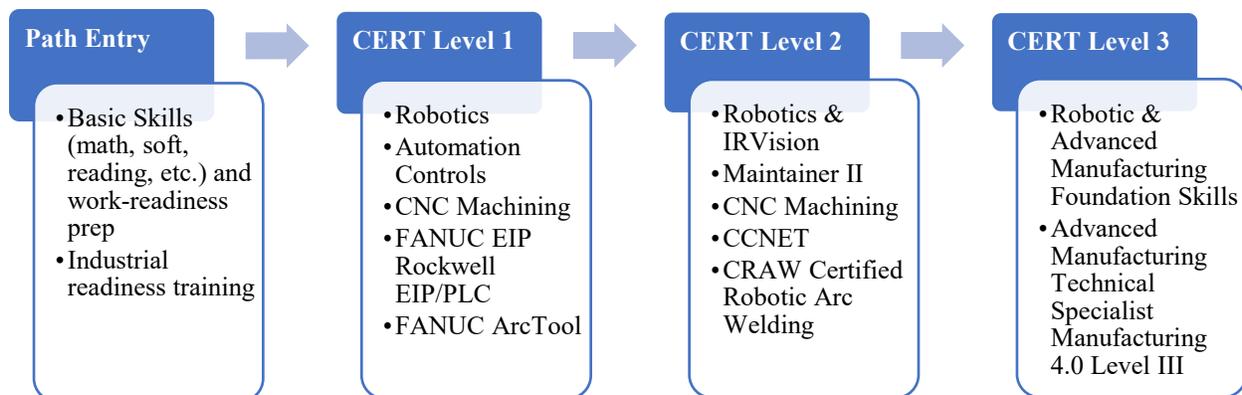
3) Career Pathways and Training Design

This proposal targets advanced manufacturing, information technology, and transportation along a relevant H1-B career pathway. There are numerous on-ramps for program participants with program completion resulting in placement and potential for career advancement to higher-paying and more secure jobs. For participants requiring skills remediation, the pathway will begin with a combination of training in basic skills, soft-skills, and industrial readiness. Upon completion, candidates will participate in a technical assessment and will be placed into one of the more in-depth CERT LEVEL 1 tracks corresponding to the three sectors of focus. Each track results in at least one industry-recognized, third-party validated credential. Industry input suggests that candidates will be ready for hire/apprenticeship and mid-level work based on completion of their Level 1 CERT completion in each of these fields. The career pathway model below outlines the intended population for each CERT level, the proposed use of funds, and opportunities to braid together grant funds.
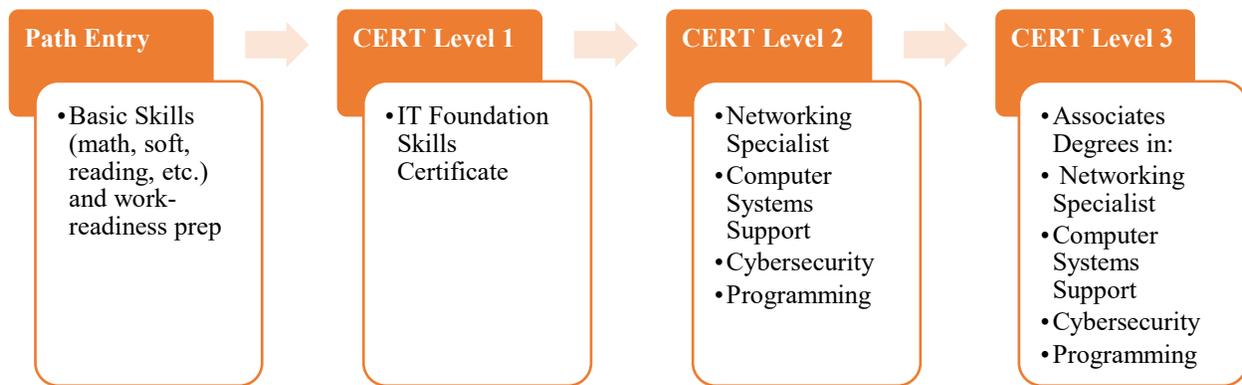
Career Pathways Model

Path Entry		CERT Level 1		CERT Level 2		CERT Level 3
• Unemployed / Underemployed • Grant Funded • Remediation • Wrap around support	→	• Unemployed / Underemployed • Select Incumbent • Grant Funded	→	• Select unemployed / underemployed • Incumbent • Braided funding, grant funding where applicable	→	• Incumbent • Select unemployed / underemployed • Braided funding

Robotics and automation constitute one of the fastest-growing classifications of job growth in Southeast Michigan and is a top workforce priority for advanced manufacturing. The curriculum, designed to prepare individuals for a career in advanced manufacturing, offers industry-recognized certifications including FANUC Level I and OSHA 10 Safety. Students also may choose to take the PMMI PLC 1 Certification Exam.

Path Entry		CERT Level 1		CERT Level 2		CERT Level 3
• Basic Skills (math, soft, reading, etc.) and work-readiness prep • Industrial readiness training	→	• Robotics • Automation Controls • CNC Machining • FANUC EIP Rockwell EIP/PLC • FANUC ArcTool	→	• Robotics & IRVision • Maintainer II • CNC Machining • CCNET • CRAW Certified Robotic Arc Welding	→	• Robotic & Advanced Manufacturing Foundation Skills • Advanced Manufacturing Technical Specialist Manufacturing 4.0 Level III

Information Technology is the sector with the largest skills gap in Michigan with cybersecurity identified as one of the most critical factors to the connected and automated vehicle industry. The curriculum, designed to offer individuals several pathway options, results in industry-recognized certifications including, but not limited, to Cisco Certified Entry Networking Technician (CCENT), Cisco Certified Network Associate (CCNA), Network+, Security+, Cloud+, Linux+, and advancement to relevant associate degree programs.

Path Entry	→	**CERT Level 1**	→	**CERT Level 2**	→	**CERT Level 3**
• Basic Skills (math, soft, reading, etc.) and work-readiness prep		• IT Foundation Skills Certificate		• Networking Specialist • Computer Systems Support • Cybersecurity • Programming		• Associates Degrees in: • Networking Specialist • Computer Systems Support • Cybersecurity • Programming

The transportation industry is experiencing a significant workforce challenge as workers near retirement without a strong training pipeline to educate and equip a new generation of talent with the skills they need. The transportation sector career pathway and curriculum will be developed by the ***Building an Industry Infinity Supply Chain*** partners with input from a newly formed employer collaborative in the transportation sector, with participation from MDOT.

Since the COVID-19 pandemic, all of the eight community college partners, supporting this proposal, have developed and offer on-line, virtual or remote training and education for a majority of program offerings. Remote training and education delivery are expected to enable higher performance outcomes.

4) Project Work Plan

There are eight goals in the attached project Work Plan. The first goal is to provide project management throughout the four-year period of performance by: 1) finalizing roles and responsibilities, staffing plans, job descriptions, and hiring in accordance with EEO policies and guidelines; 2) updating and improving the partner communication strategy and instituting bi-monthly Learning Network partner meetings; 3) developing and executing memorandums of understanding with funded partners; and 4) developing and distributing participant information forms and packets for partners to perform data management. The second goal of partner and

employer outreach and recruitment strategies involves: 1) establishing on-going Industry Infinity Learning Network meetings for funded partners to share best practices and discuss employer engagement to avoid duplication; 2) developing the outreach plan for robotics and automation training cohorts, cybersecurity and IT degree and certification programs, and transportation-related training and education programs; and 3) creating marketing one-pagers in Q1 2021 for each industry sector and overall program for posting on partner and WIN family of websites and social media. The primary objectives for the enrollment and training goal is focused on: 1) defining enrollment and training objectives for certification programs; and 2) establishing an Industry Infinity Curriculum Committee to discuss gaps and development of new degree and certification programs. The goal of case management and supportive services for at-risk populations is aimed at: 1) sharing case management best practices and activity at Industry Infinity Learning Network meetings; 2) assessing wraparound service gaps and providing case management; 3) providing recruitment, case management, and employer engagement updates at Southeast Michigan Works! Agencies Council (SEMWAC) and WIN Board meetings; 4) connecting job seekers to training partners; and 5) preparing a matrix of braided funding for employer engagement. The fifth goal is employment. The ***Building an Industry Infinity Supply Chain*** partners have achieved a strong employment placement rate of 87% in the America's Promise grant following robotics and automation training. Best practices will be shared on an on-going basis in Industry Infinity Learning Network Meetings for employer engagement, hiring, and upskilling trends. The performance outcome tracking, fiscal monitoring, and fiscal services goal is an on-going activity that involves defining and communicating performance outcomes, developing dashboard reports on the key metrics contained in the attached Performance Outcomes Table, and presenting the performance of each key partner in monthly SEMWAC

meetings and bi-monthly WIN Board of Director meetings. Michigan Works! agencies (MWA) will control the flow of funds and training delivery to community colleges, working together to achieve performance outcome objectives. If an MWA and community college region is trailing on performance outcomes, WIN will discuss the performance outcomes in SEMWAC and WIN Board meetings and MOUs can be modified to reallocate funds to another region. This practice has occurred under the USDOL America's Promise grant when the Detroit Employment Solutions Corporation (DESC) was trailing in outcomes On a positive note, with more extensive details included in the attached DESC commitment letter, the DESC recently led an intensive planning, analysis, and stakeholder engagement effort to redesign systems. Plus, this work plan activity involves competitively procuring a financial auditor, conducting annual fiscal monitoring, and performing on-going fiscal services on behalf of all partners. The seventh goal is to convene and facilitate employer collaboratives, which involves data-driven conversations about employer needs, curriculum development, and career pathway planning in CAV and cybersecurity in MAGMA meetings, and transportation needs in a new Transportation Industry Infinity Focus Group collaborative. The final Work Plan goal is instructional development. During a weekly H1-B One Workforce grant meeting series, for approximately two months prior to the application deadline, the community college partners communicated challenges with hiring experts in emerging technology to assist with upgrading and developing new curriculum. The requested funding support would enable these community colleges to deliver updated curriculum which is necessary for talent development in the sectors of focus. A Curriculum Committee is proposed to optimize the instructional development funds for new and updated curriculum. The collaborative will discuss methods to leverage the strengths of each institution for higher

education and standardize curriculum to the fullest extent possible to provide a wider range of degree and certification programs across the region.

d. Organizational, Administrative, and Fiscal Capacity

1) Capacity of Lead Applicant, Structure, Administrative Controls and Systems

The *Building an Industry Infinity Supply Chain* partners agree to use the planned systems and processes for timely and accurate financial and programmatic performance reporting. The proposed budget includes a total of three full-time equivalent positions for SEMCA WIN personnel to provide project management and oversight for the collaborative. The SEMCA WIN team will: 1) provide project management support for the grant; 2) conduct outreach and promotion to employers and job seekers; 3) support the sharing and adoption of exemplary practices and overall continuous improvement through the facilitation of partners and engagement of employers; 4) prepare reports; and 5) develop and provide labor market intelligence in the facilitation of employer collaboratives for developing and upgrading degree and credential training programs. In addition to managing sector strategies, WIN worked with the six regional Michigan Works! agencies to develop their current regional WIOA plans.

WIN has a history of developing Standard Operating Procedures (SOPs), Participant Information Packets (PIFs), and Process Guides for federal workforce grants, including apprenticeship and robotics *(examples attached, including Apprenticeship: Closing the Skills Gap Participant Eligibility, Priority of Service and File Maintenance Procedure),* which have been used by the *Building an Industry Infinity Supply Chain* partners. Based on past practice, WIN will customize a PIF packet and conduct a kick-off meeting, prepare MOUs, conduct monthly learning network meetings and monitoring visits, compile partner reports, and conduct quarterly and annual reports against the Work Plan elements. The PIF packet will allow the system of

partners to collect, track, and monitor the required demographics for the project. WIN has developed SOP and Process Guides to ensure the quality delivery of program performance outcomes to transcend the life of the grant and as a measure of sustainability. SEMCA has a procurement policy that complies with Federal and State laws and regulations. All subcontractors are contractually required to follow SEMCA Equal Employment Opportunity policies in compliance with federal laws. Project partners will sign MOU agreements to commit to tracking and reporting apprenticeship activity and outcomes. Performance outcome measures will be monitored regularly during the life cycle of the project to ensure goals are met.

2) Financial, Data Collection, and Performance Reporting Systems

The SEMCA fiscal team uses a financial accounting system as its primary reporting tool and Excel spreadsheets to supplement where needed to manage funded partner financial activity based on federal regulations related to the award. The SEMCA fiscal team has over 20 years of experience overseeing federal grant funding and senior accounting. SEMCA has undergone compliance audits and federal agency monitoring with **no financial findings** and minor programmatic findings. Funded partners will sign MOU agreements to commit to tracking and reporting training activity and outcomes in connection with the Work Plan. Performance outcome measures will be monitored monthly during the life cycle of the project to ensure goals are met. ***Building an Industry Infinity Supply Chain*** partners will follow 2CFR200 federal procurement guidelines to competitively procure a participant data collection and performance reporting system. The program management system will enable partners to: 1) track timely and accurate individual record-level data on participant characteristics, services, activities, and employment outcomes using a pre-built data collection template; 2) monitor progress towards the outcome measures and developing outcome measure reports for regularly

comparing goals to actual outcomes; 3) track employer engagement, including employer contacts, activities, and services delivered with an integrated business services component; and 4) demonstrate results with a variety of reporting capabilities. If the federal Workforce Integrated Performance System (WIPS) is used, *Building an Industry Infinity Supply Chain* partners will use the selected project management system to generate the CSV upload file of required, record-level PIRL data. *Building an Industry Infinity Supply Chain* partners will use a project management system with capability involving data collection templates for grantees to track individual participant data, and system and regular updates to match the definitions, code values, and logic rules in reporting requirements. A variety of pre-built, graphical reports would be used to monitor program performance and summarize results for Quarterly Narrative Reports, as well as an Application Programming Interface (API) for advanced data analysis.

e. Past Performance – Programmatic Capability

Partners for *Building an Industry Infinity Supply Chain* have worked collaboratively on several multi-year federal grants and were recognized this year as one of the top performers in the nation for both the *US Department of Labor American Apprenticeship Initiative and America's Promise* grants, with SEMCA as the grantee and fiscal agent. The performance outcomes from both of these 2015 multi-year grants, with six months remaining for AAI and one-year remaining for America's Promise, are as follows: 1) AAI: a total of 664 Registered Apprentices against a goal of 600; 2) 2,211 AAI Participants Served against a goal of 853; 3) a total of 464 AAI Employers Engaged against a goal of 226; 4) 23 AAI Registered Apprentices for the Intermediary Standards Program for no target outcomes beyond applying and becoming approved to hold standards for employers; 5) 342 America's Promise Catalyst Participants Obtained Employment against a goal of 420; 6) 717 Participants Enrolled in Catalyst against a

goal of 950; 7) 496 Catalyst Participants Completed Education against a goal of 736; 8) 498 Catalyst Participants Completed Education with a Credential against a goal of 714; 9) 736 Catalyst Participants Served against a goal of 900; and 10) 696 of the 736 Participants Served are part of our target populations of un-and-underemployed individuals.

SEMCA WIN applied to the Department of Labor Office of Apprenticeship to become an apprenticeship intermediary standards holder to attract more employers in the apprenticeship program and developed and utilized excel spreadsheets to track all of the required data elements. WIN issued a policy to all funded partners to standardize the process for gathering, managing, tracking, and reporting on participant information using master data sheets and the federal grant reporting system. Grant management involves data entry, quarterly reporting on performance outcomes to the DOL, and providing a clear understanding to funded partners on how to track overall performance targets. The funded partners are provided an SOP for details on submitting participant data. WIN will serve as the project manager with a chief responsibility to manage programmatic reporting and monitoring activities of key milestones and activities in the Work Plan. As previously mentioned, WIN develops and customizes SOPs, MOUs, PIFs, Process Guides, and other proactive resources and tools to bolster performance outcomes. The *US DOL ETA Apprenticeship: Closing the Skills Gap* grant program involves the same *Building an Industry Infinity Supply Chain* partners, which WIN developed a **Participant Information Form (PIF) packet** *(attached)* covering eligibility determinations, 89 key demographic and data elements required for the grant, and case notes.

f) Budget and Budget Narrative

Building an Industry Infinity Supply Chain partners are seeking the ceiling award due to the need of community college partners to hire experts to assist with instructional development in emerging technology and to deliver a high volume of certification training programs in three key industry sectors to the Michigan economy. The budget includes $2 million of support for instructional development activities. Similar to the successful delivery of the $6 million America's Promise grant which flows through the Michigan Works! partners, the largest budgetary line item of $6.9 million is proposed to be divided equally to the six workforce development board partners for a coordinated approach to meet employer needs by providing braided funding, delivering training through the community colleges and training providers, and delivering support services to at-risk population groups. WIN has a proven record of leading employer collaboratives, generating labor market reports, and managing regional workforce grants. The SEMCA WIN personnel, fringe, travel, supplies, and subcontractor line item budget totals $900,000 for: 1) project management of the 14 community college and workforce partners in meeting the overall project performance outcomes; 2) management and facilitation of the MAGMA collaborative; 3) formation of a new employer collaborative in the transportation sector for the purpose of building career pathways and developing new curriculum; and 4) development and analysis of labor market information for employer collaborative meetings in consideration of new curriculum development. The budget includes a total of two full-time equivalents for program management of all project Work Plan activities of ***Building an Industry Infinity Supply Chain*** partners, Emsi real-time labor market data subscription cost to produce quarterly labor market reports which are the core focus of employer collaboratives, participant tracking software procurement, and relatively small travel, laptop and supply costs. The same

level of staffing support on the successfully managed America's Promise grant is also proposed for this project.

2. Amount and Scope of Leveraged Resources

Employers, community college and Michigan Works! partners contributed leverage totaling $3,999,657.79 through braided funding, delivery of wraparound services, and staff for instructional development and program oversight. The structure of this proposal is to coordinate activities through the MWA system. This is the second time that the SEMCA WIN collaborative has structured a proposal in this manner to optimize the coordination of services that are provided through the MWA WIOA funds for wraparound services, and to provide training support based upon employer demand. This is the prototype service delivery model, which was developed and delivered in an exemplary manner through the America's Promise grant. The Michigan Works! agencies have access to State of Michigan Apprenticeship Expansion grants that provide up to $3,000 per apprentice, as well as Going Pro Talent funds that support employers with training dollars. Not included in leverage, the Community Colleges Pell Grants and other federal assistance that may be used to support students based on income including Perkins Funding to support special population groups, such as individuals with disabilities and women pursuing careers in male-dominated fields.

g) Priority Consideration

Building an Industry Infinity Supply Chain partners are focusing on several opportunity zone locations to provide training and support services, including Career Technical Education programs to: 1) Michigan Genesee 26049002800 Low-Income Community; 2) Michigan Oakland 26125142200 Low-Income Community in Pontiac; and 3) Michigan Monroe 26115831700.

APPENDIX C: ABSTRACT SUMMARY FOR
BUILDING AN INDUSTRY INFINITY SUPPLY CHAIN

Lead Applicant Organization Name:	Southeast Michigan Community Alliance (SEMCA)
Lead Applicant Entity Type:	Public Workforce Development Entity
Lead Applicant Location:	Taylor, Michigan

EMPLOYER PARTNERS

Alpha USA	Gabes	Maya Gage	Paragon Tech
Anderson Dev	Henry Ford Health	MDOT	Salenbien Trucking
Barron Industries	HMS Products	Michigan Paving	Shunli Steel
Burke Architectural	Kyocera	Navitas Systems	Three M
Consumers Energy	Lapeer Plating	Novacoast	ValTech
Dataspeed	LIFT	NYX	Werner Enterprises
DDOT	Magna GST	OHM	29 Letters Attached

INSTITUTIONS OF HIGHER EDUCATION PARTNERS

Henry Ford College	Oakland Community College
Macomb Community College	Schoolcraft College
Monroe County Community College	Washtenaw Community College
Mott Community College	Wayne County Community College District

NON-PROFIT WORKFORCE DEVELOPMENT PARTNERS

Detroit Employment Solutions Corporation	Michigan Works! Southeast
GST Michigan Works!	Oakland County Michigan Works!
Michigan Works! Macomb/St. Clair	Southeast Michigan Community Alliance

NON-PROFIT ORGANIZATION PARTNERS

Chaldean American Chamber	Rochester Regional Chamber	Rocket Community Fund

PROJECT INFORMATION
Geographic Scope and Core Region: 16- County Southeast Michigan region (containing prosperity regions 6, 9, and 10. **Opportunity Zones:** Genesse 26049002800; Oakland 26125142200; and Monroe 26115831700

Total Funding Requested: $10,000,000	**Total Leveraged Funds**: $3,999,657.79

Project Title/Name: Building an Industry Infinity Supply Chain
Proposed Number of Participants to be Served: 850, delivered by 8 colleges and 6 MWAs
Summary of Activities for "BOTH" Existing and New Programs: 1) increase the number of un/underemployed, non-traditional, incumbent and other workers receiving certification training in advanced manufacturing, IT, and transportation occupations; 2) support targeted outreach and case management of hard-to-serve populations; 3) establish and expand the availability of training programs; 4) increase the number of trained workers with access to middle and high-wage earning jobs; 5) develop clear and achievable career pathway strategies; 6) establish, sustain, or expand employer collaboratives; and 7) maximize all available funding.
Targeted Population(s) to be Served: Unemployed, underemployed, and incumbent
Targeted H-1B Industry Sectors: Advanced Manufacturing, Transportation, IT
Targeted H-1B Occupations: Information Security Analysts; CNC Programmers; Surveyors
Credential(s) to be Awarded: Including, but not limited to, FANUC Level I, OSHA 10 Safety, PMMI PLC 1, CCENT, CCNA, Network+, Security+, Cloud+, Linux+

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