

INDUSTRY & INCLUSION

MANUFACTURING

WORKFORCE

STRATEGIES

BUILDING AN

INCLUSIVE FUTURE

How community-embedded
workforce organizations center
racial equity, credentialing,
and training to create stronger
neighborhoods

June 2021





TABLE OF CONTENTS

Introduction // 4

Overview // 4

How to use this research // 6

Summary of Methodology // 8

How the project was done // 8

Reflections // 10

WRTP|BIG STEP Profile // 12

Introduction // 12

Wisconsin Regional Training Program | BIG STEP // 13

Technical Description // 14

Personal Profiles // 20

John Luebke & Sheree Hurt	Operations Manager & IMT Journey Worker, Deltro	20
David Polk	Apprenticeship Director, Milwaukee Area Technical College	22
Joe Nicosia	Manufacturing Coordinator, WRTP BIG STEP	24

About the Organizers & Acknowledgements // 26

Appendices // 27

INTRODUCTION

Overview

In 2020, The Century Foundation (TCF) and the Urban Manufacturing Alliance (UMA) collaborated to create a national program to examine educational strategies and community-driven workforce models that connect diverse communities to opportunities in manufacturing, and to identify the policy change needed to scale those efforts. The Inclusion and Industry 4.0 (I&I) Project brought together leading practitioner organizations to understand and lift up best practices and challenges, and extract lessons for policymakers to expand support for community-based manufacturing training. I&I represents a critical component of TCF and UMA's goal to promote the development of effective workforce and education strategies targeting an inclusive future in manufacturing.

The I&I program builds on an earlier collaboration starting in 2017 when UMA joined TCF on their [High Wage America campaign](#), which published nine policy research reports and held conversations with hundreds of stakeholders across the industrial Midwest. The initiative, one of a new generation of high impact TCF policy research efforts to address inequality, attracted multiple 2020 presidential contenders (Senators Sherrod Brown and Kirsten Gillibrand, and now-President Joe Biden) to its events, and national media attention for its recommendations. High Wage America research concluded that tackling inclusion, alongside a move to more advanced production, would determine the fate of American manufacturing.

Manufacturing has one of the most aged workforces in the economy and currently faces a recruitment and skill-building challenge. These come on top of the fourth industrial revolution as manufacturers are redesigning production and products to take advantage of automation, artificial intelligence, and the internet

of things — demanding new skills at every level of production. To address these challenges, manufacturing companies and workforce development partners are developing new approaches to adult skill development that takes into account barriers to accessing, committing to, and completing long-term training programs. These same organizations are also going through their own learning and growing in order to better support Generation Z talent — individuals born between 1997 and 2012 — who as students experienced drastic economic, cultural, and technological shifts which have impacted K-12 learning, personal values, and ideas about meaningful, sustainable work.

Luckily, an exciting generation of workforce intermediaries is providing diverse workers new opportunities to attain skills in advanced manufacturing. These intermediaries served as our I&I cohort members, and focus on serving adults and adolescents, primarily those of color. Despite the loss of manufacturing in all of our cohort cities, these communities have long counted on the many remaining manufacturing jobs as a source



of middle-class income, especially for those workers who don't have a college degree. But a generation of

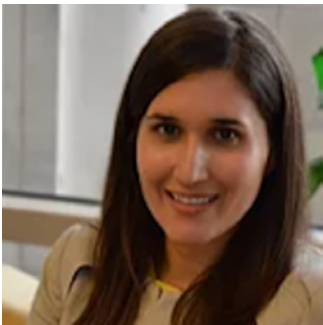
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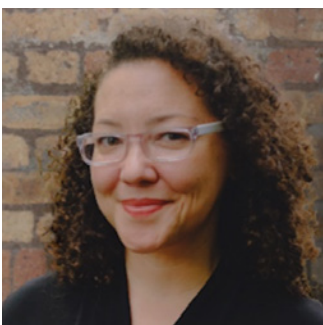
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parents who experienced job loss from that industrial decline — particularly in urban communities of color — have served as a cautionary tale for current youth and young adults. As a result, many younger workers and their families today do not view manufacturing jobs as a viable pathway, and thus have not encouraged them to develop the skills needed to enter and advance in manufacturing careers. However, the rebound in manufacturing over the past eight years, means that good-paying jobs in manufacturing could once again make a big difference for urban communities of color, and others who need well-paying work — but only if comprehensive programs are in place to make the connections between communities, training programs, and these good jobs.

The innovative leaders of the eight I&I cohort members prove that with the right program models in place, a variety of un- and under-employed adults of all ages are able obtain the necessary skills to gain employment into a rewarding career in manufacturing, with further opportunities for skills advancement and wage progression. Through 2020, cohort members, TCF, and UMA worked collaboratively through virtual roundtable discussions, seminars, and interviews to explore policies and programs, questions of scale and sustainability, and promising practices. From this work many takeaway

lessons about education, training models, employer engagement, and supportive service strategies were organized, documented, and shared.¹ Moreover, this collective research will position these organizations as national leaders who can spark replication in other communities, and provide policymakers with a road map of how to make such replication and expansion possible.

How to use the research

TCF and UMA have packaged lessons learned from the Industry and Inclusion 4.0 Project into two publications: *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future*, and *Industry & Inclusion: A Blueprint for Action*, this research report and blueprint for action. This report is a journalistic set of profiles of our cohort organizations and the people who power them. *Industry & Inclusion: A Blueprint for Action* is a set of conclusions and insights based on the common themes of: Learning, Racial Equity, Economic Justice, Pathways to Ownership, Relational Innovations, and Creating Strong Partnerships. These publications highlight barriers and opportunities at the intersection of workforce and economic development, place a spotlight on leading members of the cohort, document learnings from the cohort's interactions, and organize research and public policy recommendations.

The scaling of successful workforce programs like those highlighted in these publications will be aided by complementary public policies. TCF, UMA, and the I&I cohort are promoting a greater priority on inclusion throughout federal manufacturing programs, such as Manufacturing USA and the Manufacturing Extension Partnership, and national workforce development programs, such as the Workforce Innovation and Opportunity Act (WIOA). TCF's *Industry & Inclusion: A Blueprint for Action* includes an analysis of ways in which federal workforce and higher education policies can be reformed to facilitate the scaling of I&I cohort members and similar program models. In addition,



¹ See Appendices.

Industry & Inclusion: A Blueprint for Action includes state and regional action areas, including how to invest federal and state dollars and how to structure higher education involvement in non-degree credential programs in manufacturing.

This report includes a summary of the interactions and discussions between cohort members, UMA, and TCF; reflections on connections within those discussions; and a collection of technical descriptions and personal profiles that share the stories and backgrounds of program leaders and stakeholders with whom they work. *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* will help similar workforce development organizations gain insights to improve upon existing practices and provide guidance and connections to help make the leap to new beneficial practices. Together, *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* and *Industry & Inclusion: A Blueprint for Action* are meant to be used by many different stakeholders who are advocating for new, continued, or expanded support for community-embedded, innovative workforce development organizations that are training current and future manufacturing talent.



SUMMARY OF METHODOLOGY

The goal of the I&I program was to create an opportunity for program leaders to tell the story of their work from their perspective, create a space to discuss what is and isn't working in current strategies, and identify challenges and discuss solutions to increase impact. To achieve this, TCF and UMA organized a new cohort of urban, community-based organizations that have built workforce development programs to help create new education and career pathways for women, communities of color, people with conviction histories, veterans, and other marginalized communities. TCF and UMA's original research plan for the cohort included in-person discussions, facility visits, and national gatherings. Due to the COVID-19 pandemic all activities shifted to virtual gatherings and discussions. The pandemic provided an unexpected backdrop that amplified the importance of the project. Yet, the economic shutdown due to social distancing guidelines, combined with a spike in demand for personal protection equipment and the shutdown of global supply chains, increased awareness of the importance of local factories as places where both essential products are made and where frontline workers work. Also during the I&I cohort, police officers in three different cities murdered George Floyd, Breonna Taylor, and Rayshard Brooks — three Black people, three among far too many before and after them — further amplifying the importance of taking action to include racial equity and inclusion in economic development and workforce strategies. While it is hard to fully grasp how collective learning may have been impacted by these historic moments, it is important to acknowledge they created an immediate shared learning experience that brought participants together in unanticipated ways.

How the project was done

TCF and UMA reorganized our original learning program into all online interactions between cohort members, project conveners, an advisory board, and other



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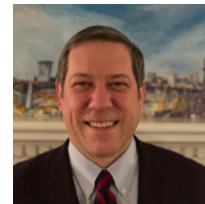
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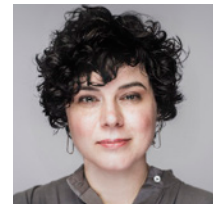
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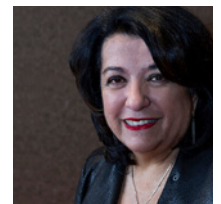
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national experts. The research team used contemporary approaches to knowledge transfer to identify the impactful ways these eight models have been able to seed and scale programs in their own communities while strengthening local manufacturing ecosystems.

The research methods implemented over the course of the 12-month program include: roundtable discussions between all cohort organization stakeholders (industry leaders, trainees, education partners); webinars featuring cohort members, advisors, and subject matter experts; and one-on-one interviews with program leaders and stakeholders from their region. Qualitative analysis was done of these discussions to connect themes across conversations, cities, and programs. Through analysis of the findings, we extracted lessons from the field and identified barriers to success. We designed research questions in each of the structured discussions to capture the strategy behind how cohort members work

Within the larger conversation about workforce development and ecosystem engagement, we asked questions dedicated to more focused elements, such as the effects of different credentialing models — such as apprenticeships, higher education programs, or competency-based credentials — and relationships with educational institutions on program design and outcomes. We included other questions to better understand the continuing impact of Industry 4.0 technologies, such as automation, cybersecurity, and the internet of things, on the requirements in the manufacturing workforce, and how these are changing the skills required for manufacturing jobs. Within each discussion we intentionally left time and space open to allow more organic sharing and reflection.

While we based observations on qualitative research, we made conclusions in the context of the data these programs provided on job placement, wages, and credential attainment. TCF and UMA developed a standard data request for each organization participating in the cohort to organize data on demographics of participants, data on training completion and credential attainment, and job placement and retention, among other topics like funding sources and key partnerships. .

To help guide and ground the research, TCF and UMA organized an advisory board to provide a deeper knowledge of workforce development models. Our advisory board was made up of national workforce development thought leaders from academia, the private sector, nonprofits, and government. The advisory board provided a much-needed national framework to the local conversations with the eight cohort members.



with communities and businesses to create career pathways for workers, particularly in communities of color and low-income populations, who currently are not well-connected to the manufacturing sector.

REFLECTIONS

Given that each cohort organization participated in a three-hour roundtable group discussion, a series of one-on-one interviews, and monthly gatherings, it is impossible to fully share all the stories and moments of learning that informed TCF and UMA's insights and reflections. This process yielded shared experiences and pain-points across multiple organizations, despite working in different cities, with different stakeholders, and within different regional histories.

Many discrete discussions ran through the collection of stories and backgrounds of the cohort members. Individual organizations talked about the process and difficulty of finding skilled trainers to provide technical instruction who also have the social awareness to work with BIPOC communities, individuals who have little to no work experience, and those who live in neighborhoods that have experienced high amounts of trauma.

Each cohort organization approaches this process in their own way. Some have been able to successfully recruit diverse teachers from industry to work full time within their companies, such as Jane Addams Resource Corporation (JARC). Other organizations have built relationships with education partners that have developed train-the-trainer style programs to help teachers better understand their students' experiences, which is a strategy Northland Workforce Training Center (NWTTC) and Manufacturing Renaissance (MR) have created. Finding capable teachers echoes part of another ongoing conversation: it is important to find the right people for the right position. This goes for many different roles within the education-to-career pathway support network: roles which include technical trainers, mentors, career coaches, employer recruitment and support, program marketing, and program advocates. These conversations also touch on the idea that the whole ecosystem needs to fill these roles rather than one individual organization having all of them under one roof.



Having many partnerships within a regional ecosystem — that contribute to the well-being and support of current and future employees *and* manufacturing businesses — was talked about by all cohort members. There is no one way to build these relationships, nor is there just one perfect combination of partners. For example, Lightweight Innovations For Tomorrow (LIFT) and Manufacturing x Digital (MxD) have built connections to technology developers through their non-workforce development work as Manufacturing USA Institutes. They have been able to turn those connections into partnerships which have opened new possibilities for teaching high school students about cutting-edge technologies. Many organizations discussed working on ways to strengthen their regional connections to the education and workforce development networks. Even though both networks are on the education continuum, they tend to operate very differently, leading cohort members to develop separate ways to build partnerships with individual groups.

The most consistent relationships that all organizations have are with networks of manufacturers and of social service providers. Yet again, there are unique ways

to manage these network relationships. Some have created fee-for-service incumbent training programs to bring manufacturers to the table — for example, JARC and Wisconsin Regional Training Partnership / Building Industry Group & Skilled Trades Employment Program (WRTP | BIG STEP) — and others rely on placing newly skilled workers in manufacturing businesses to build interest for ongoing programs, as is the case with MR. Creating relationships with social service providers often depends on building trust with individuals at each organization and providing education and insights about why the communities they serve should be pursuing careers in manufacturing.

Investing in relationships with social services, employers, and the larger ecosystem illustrates another key point: organizations often have to do a lot of work beyond skills training. One instance includes coaching employers to learn new practices and implement policies that correct for discrimination against BIPOC and women, one of the most often cited extra tasks. Some of this coaching is done one-on-one, in subtle ways, like Manufacturing Advocacy and Growth Network's (MAGNET) intern coach who helps employers understand and communicate expectations with their trainees. Whereas Menomonee Valley Partners (MVP) works with external partners to develop race and gender equity training programs for employers. JARC is launching a group discussion forum for many business leaders to come together to discuss race, equity, and inclusion barriers and strategies for change. This work outside of training illustrates gaps within the ecosystem. Many organizations have developed an informal process of taking on extra work, uncovering why it is needed, then finding new organizations to bring into the ecosystem to fill the gap. When this is not possible the next step is often to communicate the importance of doing the “new work” and then seek funding to cover the costs associated with it.

The day-to-day operations, program offerings, and service networks of each organization illustrate the effort it takes for a trainee to transition from no employment, or underemployment, to full time employment. Sometimes the effort is about planning new strategies

for childcare, overcoming family and peer pressure, or covering rent and transportation costs. In other cases the effort is fighting against racist and inequitable employer practices. Each cohort leader shared, in their own way, their empathy and awareness of what it takes to commit to, what for many, is a very new and life-changing experience of learning skills needed to work in manufacturing. This awareness translates into many different strategies, all of which help make this big transition easier. As mentioned previously, all organizations have built social service networks in part to help with easing this major life transition and reducing the effort needed to solve problems associated with creating new childcare options, transportation, and even clothing. Organizations have implemented strategies internally as well. MR and MAGNET, for example, have created mentor programs to connect a trainee with someone who has shared life experiences to help guide them through the process and acknowledge their effort. NWTC and JARC offer career coaching to help individuals ease the transition into employment, preparing them before they start their career for how to navigate on-the-job conflicts and how to advocate for themselves. And, MVP created a women in manufacturing program to connect young women to professionals in careers in manufacturing to help build bridges that previous generations did not benefit from.

The following Profile Library section provides more information on these individual organizations for further study and to help uncover more connections and relationships across the I&I cohort members. *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* provides both deeper explanations as to how these themes were discussed and provides recommendations to change policies in response.

WRTP|BIG STEP PROFILE

Introduction

As part of the Industry & Inclusion 4.0 Project, UMA interviewed cohort members and their partners to gather background information and details about how they create and deliver programs. From these discussions UMA generated Organizational Profiles for each of the eight cohort members. These Organizational Profiles are divided into two parts:

Technical Descriptions: snapshots of each workforce development organization which include a brief description of their history, an overview of how their signature programs operate, self-identified keys to success, recent outcomes, and their future plans for scaling the impact of their programs.

Personal Profiles: stakeholder interviews to gain a deeper understanding of the relationships that exist between the workforce development organization and the communities and employers they serve. These include trainees, industry employers, and partners in education.

Each Organizational Profile is meant to shed light on how each cohort member successfully navigated the process of designing and implementing an innovative workforce development solution for their region and for people they support. As a collection, these eight Organizational Profiles highlight the importance of: building partnerships and ecosystems, navigating stakeholder engagement, remaining open to ongoing improvements and learning, and understanding both employers' needs and the needs of the current and future workforce.

In the Personal Profiles you will find individual meaningful experiences of: how people's lives were changed by the training programs, how after graduating trainees return to give back to the next generation, and mentorships

between intergenerational workers that share a culture and background. And like the Technical Descriptions, the collection of Personal Profiles highlight important themes. For example, the need for: committing to ongoing dialogue with the community to understand their needs, cultural awareness within manufacturing companies, and a broader definition and understanding of impact and outcomes.

The Organizational Profiles provide a glimpse into the inherent complexity of preparing a new workforce for an ever-changing industry. What UMA found compelling through these discussions is that each cohort member has become an expert in discrete topics like recruiting the right people, building an ecosystem, and supporting the transition of workers. Even though no two organizations operate in the same way, they have all come to understand key important principles: leverage what makes one's region unique; bring partners of all kinds to the table to develop ideas and get feedback; create a culture of learning and education as a lifelong process, within their own organizations and within the manufacturing businesses they work with; and new programs require social innovation — a change in behavior — on the part of trainers, trainees, employers, and funders.

Please visit urbanmfg.org/project/industry-and-inclusion-national-cohort to read our research, commentary, and the seven other cohort member profiles.

WISCONSIN REGIONAL TRAINING PARTNERSHIP | BUILDING INDUSTRY GROUP & SKILLED TRADES EMPLOYMENT PROGRAM [WRTP|BIG STEP]

Industry Led, Worker Centered, and Community Focused.

Milwaukee, WI

Technical Description // 14

Brief Introduction, History, & Background
About Northland, NWTC's Curriculum, & Supportive Services
Keys to Success
Outcomes
The Future [Scaling]

Personal Profiles // 20

John Luebke & Sheree Hurt Operations Manager & IMT Journey Worker, Deltrol 20
David Polk Apprenticeship Director, Milwaukee Area Technical College 22
Joe Nicosia Manufacturing Coordinator, WRTP|BIG STEP 24

Brief Introduction, History, & Background

Building Industry Group and Skilled Trades Employment Program (BIG STEP) was founded in 1976 by representatives of the building trades in Milwaukee. BIG STEP's main goal is to increase the number of young adults, women, and people of color workers in the building trades. Through a Department of Labor grant in 2002, BIG STEP was able to partner with the Wisconsin Regional Training Partnership (WRTP) to develop new employer-driven work readiness initiatives. From the beginning of their collaboration, the two organizations developed multiple ways of supporting each other's work: creating funding opportunities for both organizations, developing strategies for engaging with unions and employers, and increasing efficiencies in training programs. They would eventually merge their boards and organizations in 2014.

WRTP was started in 1992. A wave of retiring workers, increased demand for manufacturing skill sets, and shifting global and local supply chains were impacting Milwaukee's industrial base in the 1980s. These factors pointed to the need to create two workforce development strategies: one that would help incumbent workers develop and maintain skills, and one for workers without manufacturing experience or knowhow. The Commission on a Quality Workforce, a State of Wisconsin initiative, studied the problems and recommended a partnership be created that brought together labor, business, and government. WRTP formed in response to the commission's recommendations. They received funding from the Annie E. Casey Foundation and took up the task of establishing a manufacturing training program for former welfare recipients and other low-income central city residents to gain access to family-sustaining jobs in manufacturing.

With support from former governor Jim Doyle in 2006, WRTP|BIG STEP established the Center of Excellence for Skilled Trades and Industry (COE) to scale and create programs in response to the reemergence of a skills shortage in Milwaukee's industrial sector. The

COE is located in the center of Milwaukee and serves employers, unions, current workers, job seekers, and community partners. The COE acts as a hub serving as a clearinghouse for job-ready candidates looking for careers in manufacturing, construction, and other related fields. Candidates can begin their career pathway there by learning about opportunities, and expectations, for careers in manufacturing and the skilled trades, learning about job placement processes, and applying for and participating in training programs. The COE also acts as a conduit between employers and newly-skilled professionals. Over the course of WRTP and BIG STEP's combined histories they have helped lead the renewal of the manufacturing base in the Milwaukee area while increasing people of color and female representation in the city's skilled trades and manufacturing.

“When we started designing the IMT apprenticeship we brought all kinds of manufacturers to the table: food processing, motorcycle making, etc. It didn't matter if they were in plastics, metal, or wood, they were all at the table. We really wanted to make sure they were all at the table because we wanted to design something as a standard core curriculum for all advanced manufacturing.”

-Rhandi Berth, Chief Innovations Officer

About the Industrial Manufacturing Technician apprenticeship program.

WRTP|BIG STEP uses workforce development to help stabilize individual manufacturing businesses by helping businesses keep and upskill their employees. They are helping Milwaukee's regional economy by creating strategies which allow them to work with a lot of manufacturing businesses regardless of their specific sector or expertise. Different from most workforce development programs, they use a “reverse model” where WRTP|BIG STEP identifies immediate needs and job openings in manufacturing businesses and then tailors apprenticeships and training programs to address those needs. They work with employers and unions to complete needs assessments — through a one-on-one interview with the employer — to find out

who's hiring, laying off, or growing, who's investing in their workers, and who's struggling to find employees. WRTP uses the collection of assessments to understand how the manufacturing ecosystem is working.

WRTP|BIG STEP's newest support for helping employers respond to skilled worker needs is the Industrial Manufacturing Technician (IMT) registered apprenticeship program. WRTP|BIG STEP worked with employers, unions, and the Wisconsin State Labor Workforce Office to create the IMT apprenticeship. What makes the IMT apprenticeship different is that it was designed to cut across different types of advanced manufacturing sectors and jobs. WRTP|BIG STEP was able to develop the apprenticeship by bringing diverse manufacturers to the table who had a variety of job titles within their individual companies. The goal was to create an apprenticeship program that could be applicable to most careers in manufacturing and could be used to train individuals new to manufacturing and incumbent workers with years of working history. Working collaboratively, WRTP|BIG STEP, employers, and unions identified the basic skills needed for entry-level jobs and what is needed to advance along a career path. WRTP|BIG STEP worked with the Wisconsin State Department of Workforce Development, Bureau of Apprenticeship Standards to design a 3,000-hour hybrid registered apprenticeship with 264 hours of related instruction¹ that would be applicable statewide. They also worked with employers to create the Job Book which identifies approximately 2,700 hours of on-the-job learning that can be adjusted to meet more specific needs within a sector or job.



The IMT program was designed to be very adaptable. The related instruction focuses on safety, quality, production, maintenance, awareness, communications, and industrial math, knowledge, and skills which cut across industries and jobs. On-the-job learning is more focused on a specific industry or technology. The IMT apprenticeship intentionally aligns with existing youth apprenticeships, pre-apprenticeships, more advanced apprenticeships which take four to five years to complete, and union-based training in skilled trades. What this means is individuals who have already completed, for example, a youth apprenticeship, college credits, credentials, and or on-the-job learning, can count this learning and work history towards the IMT, where appropriate. This can streamline and reduce the training load on an individual, reducing the time it takes for them to get placed in a higher paying job.

Along with creating the IMT apprenticeship and other training programs, WRTP|BIG STEP works as a conduit between employers and their future employees. To find potential employees, WRTP|BIG STEP uses the COE, works with city and state workforce boards,

¹ "Related instruction is commonly provided in the classroom, but other types of instruction, such as on-line learning and individualized instruction are also permitted." Understanding Apprenticeship Basics - <https://www.dol.gov/sites/dolgov/files/odep/categories/youth/apprenticeship/odep1.pdf>

community and technical colleges, and is part of the Community Workforce Partnership (CWP), a formal network of community-based organizations developed by WRTP|BIG STEP. They also depend heavily on referrals from individuals who found employment through WRTP|BIG STEP. CWP members offer recruitment, screening, and employment readiness education and training activities, and collectively work on eliminating barriers to employment providing necessary, specialized services for community residents, including transportation, childcare, income, training, and support for re-entering citizens.

“When an employer is hiring, we work with partners and search for people that are a reasonable driving distance to that employer. Then we work with partners on eliminating those barriers to employment. We have no geographic boundaries; we align and leverage a variety of funding sources so we can maintain our industry-led worker-centered model, and not be totally grant driven. We really try to look at it as: ‘This employer is hiring, these are the people that want to work there, so how do we make that happen?’”

-Rhandi Berth, Chief Innovations Officer

Keys to Success

Rhandi Berth, WRTP|BIG STEP’s Vice President and Chief Innovations Officer, identified two main keys to success: creating an industry-led and worker-centered training strategy that accommodates employees, and being part of a community-focused network of partners.

One program doesn’t fit everyone. Current and potential employees need different types of training programs depending on, for example, their previous education, work history, family care commitments, and accessibility

of funding. WRTP|BIG STEP supports a wide population, from existing employees with a four-year degree to job seekers who did not finish high school. This influenced WRTP|BIG STEP to find a workforce training model that is flexible and can incorporate individual worker history. Another influential factor is that in order to be an apprentice someone has to be employed first, creating a paid-to-learn opportunity making it possible for more individuals to participate. And the registered apprenticeship model doesn’t preclude workers from gaining other industry-recognized learning standards. For example, when working as an apprentice, you complete work hours, take college classes, and learn industry-recognized skills. This means that upon

completion a journey worker — the title given to an individual who has completed an apprenticeship — has an accredited certification, as well as industry-recognized credentials, and college credits.

Lastly, WRTP|BIG STEP has created a way to deliver training materials in a flexible way allowing employers and IMT apprentices to get started quickly and continue their learning year round, rather than wait for a semester or academic calendar to start. This is done by working with multiple partners — the main one being a local Manufacturing Skill Standards Council (MSSC)² member — who can be brought into a company to teach different elements of the 264-hour curriculum.

Working with partners is not always easy for employers to do when they are focused on running their business. For example, they don’t have time to know which college is teaching what. WRTP|BIG STEP acts as a case manager for each employer and an extension of their HR department. Each of WRTP|BIG STEP’s industry staff works with an employer to understand the full

² “Manufacturing Skill Standards Council (MSSC)®, a 501(c)3 nonprofit, is an industry-led, training, assessment and certification system focused on the core skills and knowledge needed by the nation’s front-line production and material handling technicians. The nationwide MSSC System, based upon industry-defined and federally-endorsed standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the technology-intensive jobs of the 21st century.” <https://www.msscusa.org/about-mssc/>

spectrum of what they need and then WRTP|BIG STEP helps them find the right partners, workforce, funding, and/or support services. If any question or issue arises with an employer, industry-specific staff members respond immediately with either internal offerings or recommendations for services provided by partners. This requires WRTP|BIG STEP to be up-to-date on what types of support providers are offering, who to contact, and what is expected of the employer in order to work with the partner. Keeping partnership relationships and information up-to-date, according to Berth, is probably the hardest part of their job. Non-employer partner relationships take a lot of nurturing and a lot of attention and it's not always fundable, but it's very important.

“Our pre-employment participants were studied after two and three years of participation, to see how employees that were placed with WRTP|BIG STEPs involvement are doing. They had very high retention rates and very high wage placement rates. And that’s one of the things we’re known for: a reverse workforce model, starting with good jobs and helping employers become better and more inclusive.”

-Rhandi Berth, Chief Innovations Officer

Outcomes

WRTP|BIG STEP wants to not just diversify entry level jobs; they want to diversify higher level jobs. WRTP|BIG STEP identified that the best way to get women and people of color into those jobs is to get them more skills faster, which is why they created the IMT apprenticeship. The IMT apprenticeship, launched in 2012, scaled up quicker than any apprenticeship in the history of Wisconsin and it has been replicated in over 20 states. WRTP|BIG STEP is working directly with employers or an employer through a union representative to bring the IMT apprenticeship into new facilities. According to the Equity in Apprenticeships Report³ published by the Center of Wisconsin Strategy, which studies workforce and opportunity through an equity lens:

“In 2016, Wisconsin had some 2,265 workers registered in all industrial apprenticeships. With 76 apprentices, the IMT accounted for a tiny sliver — just 3.3 percent — of Wisconsin industrial apprentice participants. But the IMT accounts for one in five of women in the state’s industrial apprenticeships: of the 60 women in industrial apprenticeships, 12 were in the IMT... The IMT is also performing much better than other industrial apprenticeships for people of color. ... [I]t accounts for more than one-in-four workers of color in all industrial apprenticeships (21 of the 82 apprentices of color in the state are in the IMT). ... Because the IMT is designed to be a launching pad into further training, in time the diversity of IMT journey level workers may help increase diversity in these more intensive (and traditional) industrial apprenticeships.”

For WRTP|BIG STEP, one of the most important outcomes is that unions *and* employers keep coming back to find workers and/or to bring in the IMT apprenticeship. When employers keep coming back it shows WRTP|BIG STEP it is worth investing more time and resources to help that

company. Increased connections between employers, community partners, unions, and WRTP|BIG STEP has created a more knowledgeable and more aware ecosystem. WRTP|BIG STEP has seen changes within employers, such as better treatment of their employees, an increase in job quality, and more diverse workers being given opportunities. It is difficult to pinpoint one exact reason for these changes, instead it is likely due to a combination of factors: people talk about their work experience with their unions and “high road” companies get more recognition as good places to work; employees are staying at companies longer; and data collection is more consistent, providing proof of success, helping convince manufacturers new changes are worth making. WRTP|BIG STEP now has employers approaching them, voicing interest in creating a better workplace and those that embrace the new approach are seeing the benefits.

3 https://cows.org/wp-content/uploads/sites/1368/2018/08/Equity_in_Apprenticeship_IMT-2.pdf

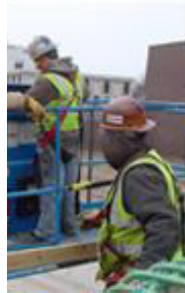
WRTP|BIG STEP's work has helped companies learn that investing in worker education is worth doing and that it is worth the extra effort of being flexible and creative to help their employees succeed while learning.



The Future [Scaling]

In Milwaukee, there used to be large manufacturing employers that would take in an employee regardless of their work experience because they had the capacity to train in-house and prepare their own talent. Over time, those employees would leave for positions at smaller companies and move up the career ladder. The smaller companies benefited from the large companies' on-the-job training and employee development. When the large manufacturing firms started leaving the central cities 25 years ago, the small employers were left in limbo, wondering: Who would teach new people the skills to work in manufacturing? The whole industry had to change its hiring practices. Over the past 10 years, smaller companies have started stepping up to take on the responsibility, and new initiatives like the one designed and developed by the industry convened by WRTP|BIG STEP, the IMT apprenticeship program, and the ecosystem that supports it, are equipping small- and medium-sized manufacturers to train and maintain the next generation of workers.

WRTP|BIG STEP was recently awarded one of the U.S. Department of Labor's Closing the Skills Gap grants to promote industrial apprenticeships in Wisconsin. WRTP|BIG STEP is implementing a strategy to increase apprenticeships that has not been done before in the state. In Wisconsin, where other apprenticeship sponsors have created and manage union or non-union apprenticeships, WRTP|BIG STEP is operating with a joint labor management strategy creating programs that meet the needs of both union and non-union employers. As an industrial apprenticeship sponsor, WRTP|BIG



STEP has been approved for five occupations and they are becoming approved for more. According to the WRTP|BIG STEP's 2020 industrial needs assessment 80 percent of the 220 employers surveyed were more interested in starting or expanding a registered apprenticeship if a true industry sponsor was developed and available for them to utilize.

Further, the IMT apprenticeship program was designed to be iterated. There could be 30 or more different occupational IMTs without much effort because of everything that was invested into the development upfront. As an industrial registered apprenticeship sponsor, WRTP|BIG STEP can sponsor all kinds of apprenticeable occupations, whenever an employer wants one. WRTP|BIG STEP sponsors the development and brings the proposed apprenticeship before a committee of employers and unions who can approve or deny it; when denied, the committee provides feedback, giving WRTP|BIG STEP the opportunity to iterate and improve. When a new apprenticeship is approved by the committee and the Wisconsin State Bureau of Apprenticeship Standards, it can be implemented immediately by the employer that voiced interest at the beginning of the process. WRTP|BIG STEP takes action, recruiting applications through their networks, and providing employer support and educational partners that can offer existing skills training or the development



of new content to match the new apprenticeship iteration.

For WRTP|BIG STEP scalability is about doing a lot more of what they have been doing, and getting more individuals enrolled in the IMT apprenticeship program in the city, state, and across the country. This will require adding new partners and other interested industries and employers. What has allowed this increase is WRTP|BIG STEP's strategy to think about replicability, scalability, and efficiency from the beginning. WRTP|BIG STEP believes the program will scale itself because those partners that are already involved — employers, unions, community colleges — are helping it scale.

John Luebke & Sheree Hurt

Operations Manager & IMT Journey Worker

Deltrol



John Luebke is passionate about working on the production floor, interacting with workers, and ensuring that products go out on time. As the Operations Manager at Deltrol, an electromechanical controls and hydraulic systems manufacturer in Milwaukee, he takes pride in giving the customers what they need from right here in the U.S.

“I’ve seen a lot of different parts come and go out of here, and sometimes overseas,” said Luebke. “We have a sister company over in Vietnam, and some of the reasons why they left is because we just couldn’t afford to do it here anymore. So I take pride in making sure the product that we currently have here stays here so that we can be competitive.”

If he speaks glowingly about manufacturing in the Milwaukee region it is because it gave him the ability to raise and support his family, just like his parents before him. Born in a family of six siblings, Luebke joined the army at the age of 18 and was stationed in Germany, but got to see much of the world. When he left the army, he got all of his education covered by the GI Bill, and saw Milwaukee as the best place for him to settle.

“Within a 100-mile radius is like 98 percent of the jobs in Wisconsin. I’ve been here since and I love it. I’m married with two daughters at home.”

Luebke approaches his job with a hands-on mindset, preferring to get involved in every piece that leaves Deltrol. He sees it as a way to keep people employed — including himself. When Luebke found out that a new cohort of apprentices would be working on a new valve

coming into the company, he had no idea that cohort was going to be all female.

“I got people here, that for two years, are probably going to be here because they want to get through this apprenticeship,” he said. “Now, I might lose them after that, because now they got a journeyperson’s card, they can go anywhere. From a company standpoint, we’ll teach them, they might leave us, but to a certain extent, we use their abilities to our advantage and keep jobs in Milwaukee.”

One of the women who Luebke depends on is Sheree Hurt. For eight years, Hurt has loved the camaraderie with her all-female team of coworkers. She is one of five female IMT Journeyworkers at Deltrol, which has been exciting for her.

“We have this new valve coming into the company, and the females will get a chance to work on it,” she explained. “We can do good work too, not just the men.”

Her family has been behind her every step in her journey, and admires the tenacity of her and the rest of the



women she works with. From her two college-educated children to her own mother, all of them pushed her to not give up. When Hurt goes to work everyday, she knows that her nieces, nephews, and cousins look up to her. They think it is impressive that she works in a factory.

Just as the women have been trained through the WRTP apprenticeship program, they now teach other women the same skills. Putting the all-female team of journeymen on new projects is a great motivator for getting more women into manufacturing.

Hurt realized things needed to change in the industry, when she signed up for the apprenticeship. Some of her male colleagues were discouraging and thought that it was not for women. “That pushed us all to get it done,” she said. “We were told that it was gonna be hard for us, and that we was gonna drop out. So we had to prove them wrong. It was hard, but we stayed in there.”

Now Hurt is part of the changing face of manufacturing by broadening its appeal to women and younger generations.

As a smaller company, Deltrol barely had the resources to train the women on-site, but Luebke believed that it was an opportunity they could not miss. He had to convince the executive management that this was in the best interest of the company, to help more people become journeymen. He believed the more the company got involved in training the next generation of laborers, the better it would be for the Milwaukee manufacturing scene as a whole.

The pandemic has meant that Deltrol cannot show off the work that these women are doing like they wanted to. With so much interest statewide in the all-female apprenticeship, showcasing their work to the rest of the industry and to girls in schools is something that will have to wait. For now, Luebke hopes that the women can continue to be examples for other women to follow, and hopes that other companies see the benefit to what Deltrol is doing.

David Polk

Apprenticeship Director

Milwaukee Area Technical College

Just like his grandfather, David Polk is a licensed plumber. As a child, Polk knew he wanted to become what he could see — like his grandfather fixing pipes. His awareness of the privilege of seeing a family member in a trade is why Polk is a proponent of telling Black youth about manufacturing.

“If you can’t see the person that does a trade, and has a family-sustaining wage, it’s almost a moot point,” explained Polk. “In manufacturing, that person works behind the walls of a building, so you never get to put a face with the name of a tool and die maker, or a CNC operator.”

Polk believes that the manufacturing industry needs to create new stories about African-Americans in manufacturing. He questions if youth are aware that they are missing out on family-sustaining careers and the potential that manufacturing offers beyond just having a job. “Some tool and die makers, design specialists, and CNC operators can work themselves up to buying their own equipment, buying their own machines, and starting their own businesses,” Polk said. “But these stories are so obscure that no one gets to hear them.”

The reason Polk is so confident that learning a trade can lead to other opportunities is because it happened to him. As a plumbing inspector for the City of Milwaukee, Polk worked on numerous projects where he was the lead inspector. After 10 years in that position, he felt things had become monotonous and wanted to expand his horizons within the city into a management position. For that, he pursued a two-year degree in business administration and then a bachelor’s degree from

Cardinal Stritch University. He went on many interviews with the city after graduation, but never got hired for any of the leadership positions at the City of Milwaukee, so he continued working as a plumbing inspector. Years later, Polk saw an associate dean opportunity with Milwaukee Area Technical College (MATC) that both appealed to his inclination toward social good and desire for leadership.

“The woman who brought me in, Miss Dorothy Walker, was within years of her retirement and she made it a point to try to put African-Americans in leadership before her retirement,” recalled Polk. “I’m forever grateful to her for that. She saw something in me I didn’t see in myself at the time.” She did more than hire Polk: she also became his mentor. Walker started out as one of the few African-American female welders in Milwaukee. She became a welding instructor, and worked her way up within MATC to eventually become a dean.

“Hearing her story, after she had brought me on, gave me even more of a push to create these stories,” said Polk. “I want our youth of color to see and hear these stories.”

Now Polk is MATC’s Apprenticeship Director and wants youth to view manufacturing as a pathway to a viable



future just as they do college. Some young employees enter manufacturing, and then lament that they should have gone to college. The middle path that often gets overlooked is getting both: a two-year college degree by way of apprenticeship. “Employers have to become creative and look within their own doors to find individuals that are worthy of investment in upskilling,” Polk said. “Then they won’t have the frustration that a lot of employers are having now, with trying to find someone that already has those skills, because then that person is already employed, and being paid handsomely. Investment and then backfilling in my opinion, is a better strategy. You can easily go find someone to sweep floors, but you can’t easily find someone to run the CNC machine. So why not get the dedicated employee that has been sweeping floors for the past five years, that’s always on time. Upskill that person and then backfill that person’s position, because I can get anyone to sweep floors.”

The story Polk wants youth to know about him is that of a diligent person who made goals and patiently worked towards them. “I always tell youth that moving forward in your career is like eating an elephant. It can only be done one bite at a time. I don’t want young people to duplicate me, I want them to be better than me, learn from my mistakes, and from my journey.”

Joe Nicosia

Manufacturing Coordinator

WRTP|BIG STEP

For more than 24 years, Joe Nicosia has used his particular insight into the manufacturing industry to help WRTP|BIG STEP trainees find family-sustaining careers. His insight comes from a previous career as a union negotiator for 25 years. When Nicosia speaks to industry partners, he sometimes surprises them with his knowledge, both of the industry and their companies.

“My time in the union taught me to talk in a company’s lingo,” he said. “It’s helped me to communicate with them, and understand the worker on the shop floor. I was one of those workers, so I do understand.” He credits the success in his current position as Manufacturing Coordinator at WRTP|BIG STEP to his previous employer.

Just like in his union days, he does extensive research on companies before they partner with WRTP|BIG STEP. He asks companies questions they are willing to answer, and susses out what they might not want to answer by speaking with current and former employees. If it sounds like detective work, it’s because it is. He does it for the sake of the company and the trainees WRTP|BIG STEP is considering sending their way.

“I assess a lot of companies myself. I do some research to find out if they’re a stable employer within this community, and what their hiring practices are like,” he explained. “I have a pretty good idea when I walk in the front door to talk to them, what they’re going to say. But I always find some new information.”

Nicosia works with other WRTP|BIG STEP staff to conduct a needs assessment on each industry partner and union representatives every couple of years. He asks

companies about productivity levels, customer loyalty, labor relations, implementation of new technologies, gender disparities,

and vendors. From this information, Nicosia and WRTP|BIG STEP staff help companies establish upskilling programs for their employees. He once suggested to an employer who bought millions of dollars worth of equipment from a vendor to get that same vendor to provide a training program for its workers. Some employers do not even consider ideas like this, but Nicosia’s awareness of their situations helps him determine their needs.

He knows that it is challenging for companies to find the resources to provide training, but he often finds that they work to locate resources when they see what the alternative will cost in not upgrading workers’ skills. For companies that come to that realization themselves, it does not take long for them to look to Nicosia for help, even if it means training employees around their production schedules.

Overall, his focus is on getting companies to do what is best for their employees, which in turn will be what is best for them. This is the thinking that helped him during his years negotiating on behalf of workers. Whereas 50 years ago unions focused on negotiating hire wages, job security, pensions, working conditions, today’s unions



ensure workers have a stable future by focusing on more than wages. This is done by convincing a company to invest in machinery and facilities to grow their business in the long-term and secure a future for their employees. This is why Nicosia believes that labor unions should continue to do more than negotiate contracts by making training part of their demands.

“Unions should play a role by encouraging apprenticeships at companies and other types of training within the facility,” he said. “The age-old thing for years was if a company got into a downturn, the first thing they would cut is the training. But downturns are the perfect time to train.”

ABOUT THE ORGANIZERS



The Urban Manufacturing Alliance (UMA) advances place-based strategies

that create more equitable communities by building community wealth through employment, ownership, and entrepreneurship through manufacturing. We connect and convene hundreds of partners across more than 200 cities, helping them learn from one another, and act as a collaborative ecosystem builder that supports local manufacturing communities and leads a national movement. UMA then partners with the practitioners in those ecosystems to create local, regional, and national research. By documenting the voices, trends, and data emerging from manufacturing communities, we provide practitioners, policymakers, and leaders with the references they need to develop new, equitable models of economic development. From that research, we tell stories, taking the trends we observe and crafting them into rich narratives that capture how our members spark change.



The Century Foundation (TCF) is a progressive, independent think tank that conducts research, develops solutions, and drives policy change

to make people's lives better. We pursue economic, racial, and gender equity in education, health care, and work. In this pivotal moment in America, we stand with a strong and firm commitment to developing policy solutions that will help this country truly realize racial justice. Founded in 1919 by the progressive business leader Edward Filene, TCF is one of the oldest public policy research institutes in the country. TCF pursues its mission by conducting timely, nonpartisan research and policy analysis that informs citizens, guides policymakers, and reshapes what government does for the better. We are distinguished by our commitment to a thoughtful and targeted strategy to bring our work to those who can contribute to making practical affirmative change. Our experts come from academia, journalism, and public service—all with a shared commitment to advancing progressive ideas that benefit the public good.

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APPENDICES

For further learning, please consider:

Industry & Inclusion Opening Commentary

- ↳ [Racial Equity and Advancing the Future of Manufacturing](#)

Industry & Inclusion Project Webinar Takeaways & Event Recordings:

- ↳ [Pursuing Equity, Inclusion, and Industrial Rebirth in the Age of Covid 19](#)
- ↳ [Advancing Equity and Inclusion in Manufacturing Credentialing and Technology](#)
- ↳ [Creating the Future Manufacturing Workforce by Enhancing Diversity and Addressing the Skills Shortage](#)
- ↳ [Partnership and Relationship Innovation To Build Race-Conscious Advanced Manufacturing Training Programs](#)

