

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





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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

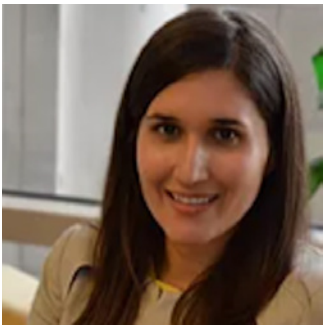
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parents who experienced job loss from that industrial decline — particularly in urban communities of color — have served as a cautionary tale for current youth and young adults. As a result, many younger workers and their families today do not view 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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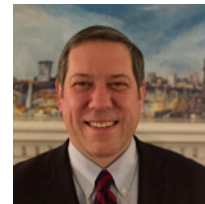
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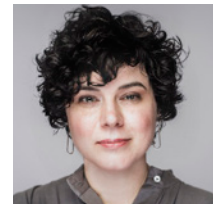
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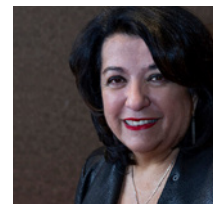
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national experts. The research team used contemporary approaches to knowledge transfer to identify the impactful ways these eight models have been able to seed and scale programs in their own communities while strengthening local manufacturing ecosystems.

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



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.

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.

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.

MR 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.

MANUFACTURING RENAISSANCE [MR]

Building Partnerships. Creating Futures. Advancing sustainable development anchored in manufacturing.

Chicagoland, Illinois

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Brief Introduction, History, & Background

Manufacturing Renaissance (MR) supports youth and young adults in the Chicago Metropolitan area (Chicagoland) via multiple programmatic areas: Policy and Advocacy, Economic Development, and Workforce Development. Manufacturing Connect and Young Manufacturers Association — two workforce programs that fit under the title of Career Pathway Services — together provide training, preparation, and support to pursue and persist in advanced manufacturing careers. Beyond the training-based programs, MR focuses on network building with employers and social service agencies to create a supportive ecosystem to increase job resiliency and interest in career development.

MR's training programs emerged as a result of research completed in 2000 exploring the changes in the manufacturing sector and public education systems. Analysis showed that in Chicago youth of color, especially Black and Latinx, would have the most to gain from training and educational opportunities linked to today's advanced manufacturing sector. Research illustrated that beyond entry level jobs, opportunities in management and ownership of manufacturing companies could be a strategic vehicle for creating wealth and expanding equity in Black/Latinx communities across the Chicagoland area. This research, and programmatic response, was built on a long history of work in supporting manufacturing jobs going back to MR's founding in 1982.

In response to the research, initial programming was designed to be embedded in a public high school setting. Early successes and lessons learned, paired with struggles to find support amidst changing administrations and agendas, led to a shift in strategies in 2019

to the model MR uses today: a community-based program in partnership with social service agencies and manufacturers across Chicago.

About Manufacturing Connect and Young Manufacturers Association

MR's Career Pathway Services programs are designed specifically to engage youth of color (in-school youth ages 14 to 18), and young adults (18 to 29), from low-income communities, to expand their access to career tracks in manufacturing, and increase their success on the job. Manufacturing Connect — launched in 2007 as a career pathways program embedded in a four-year high school — is now a 12- to 14-week technical training program that integrates three key elements (outlined below) to create a holistic approach to supporting the individual.

1. **Technical Training:** Participants meet two to three times a week, for 12 to 14 weeks with a credentialed instructor, in person (and virtually during the COVID-19 pandemic). The curriculum focuses on the skills necessary to obtain the National Institute of Metalworking (NIMS) Measurement,



Materials, and Safety¹ credential. Lessons include understanding applied mathematics, measurement tools, and blueprint reading, as well as machine and shop safety. Outside of meeting with the instructor, participants are expected to complete assignments on their own time. While completing the credentialing test isn't a requirement to graduating and getting help with job placement, the training is built in a way that when program participants start a job, or when they find the appropriate time to take the test, they are prepared.

2. On the Job Experiences:

Outside of the classroom, students participate in many different job experiences. MR has built a network of over 140 manufacturers in the Chicagoland area who offer trainees facility tours, job shadow opportunities, internships, and summer jobs. Through these opportunities students gain insights about what manufacturing looks like on a daily basis, learn about the culture of a company, and build connections with employers and their employees that can lead to employment opportunities.

3. Social Service Support Network: Parallel to the technical skills, Manufacturing Renaissance weaves in social service support. This starts with MR's dedicated staff. Instructors have a background in social work and develop deep connections with students by learning about their background, history, and life outside of the learning environment. The work readiness side of the program is not built around a defined criteria set, but depends on individual connection, relationship, and commitment to help understand each person's readiness. Manufacturing Renaissance has created a network of dozens of social service agencies who understand the complex social, emotional, economic, and

academic barriers of the youth and young adults MR serves. The combination of internal staff and support network actively aid in helping individual participants secure and retain employment.

“Manufacturing Renaissance focuses on equal parts job placement, job retention, and personal development. You can't just leave a young person after they get the credentials or a job. This often means helping navigate both job integration and home life experiences. For many, they may be the first in their family or peer group with a full time job which creates family and friend dynamics that create all new challenges and issues. Job retention includes how to get along with your boss and your cousins and your friends that may be making it difficult to stay committed to a new career.”

-Erica Staley, Executive Director

Manufacturing Renaissance created the Young Manufacturers Association (YMA) to support individuals that finished, or are finishing, the Manufacturing Connect program, as well as individuals who are pursuing careers in manufacturing regardless of their participation in a workforce development program. Established in 2016, YMA serves as a network and a program for young adults, aged 18-29, who are looking for their first employment opportunity, in between jobs, or still in training. MR organizes regular meetings and social events for YMA members to offer peer-to-peer advice and share working experiences. MR staff, the network of service providers, and fellow young manufacturers provide support for young adults transitioning into permanent employment, ongoing professional and life skills development, and balancing personal and work life dynamics. As of 2020, Manufacturing Renaissance now offers training similar to the Manufacturing Connect program open to young adults. There are over 75 members spread across the South and West side of Chicago.

¹ NIMS Credential Level 1: Measurement, Materials, & Safety. This certification validates that an individual has the fundamental knowledge of standard steel classifications and numbering systems, reading of precision measuring devices, shop and machine safety, and general machining practices, and inspection techniques.

Keys to Success

In order for Manufacturing Renaissance to deliver their program and provide support successfully, several key aspects have to align. One of the most important is their network of about a dozen (with more being added regularly) social service agencies who help promote and connect youth and young adults to MR. This has been a win-win relationship. Social services agencies have expressed interest, and a need, to connect with career pathway supporters, and MR needs help marketing their programs. Once a connection is made, interested individuals are invited to an orientation event to learn about the process, programs, and outcomes. An orientation event brings together students currently enrolled in programming, members of the Young Manufacturers Association, manufacturing businesses, and trainers. The goal is to get potential participants to hear directly from those who have been where they are and gained from being part of MR's supportive community. Depending on their age, if an individual (aged 16 to 18) signs up to be in the Manufacturing Connect program they get support navigating the process of applying for Workforce Investment and Opportunities Act (WIOA) funding to cover the costs of participating in the Manufacturing Connect program. Individuals aged 18 to 29 may sign up for YMA-hosted training as grant funding permits.

Relationships with manufacturers are also fundamental. Not only do they offer jobs and career opportunities to people who become work-ready through MR's training, they play a role in ensuring the quality of the training and on-the-job experiences are consistent with needs in the industry. Over MR's history they have built a network of over 145 manufacturers, with a couple



dozen manufacturers who are very active in providing multiple types of work experience opportunities. These active partners make up an advisory committee that makes sure the programs stay relevant and impactful. In what could be considered an exchange, MR educates manufacturers on how to make their businesses more attractive to youth, especially young people of color. This is not a formal program, but it is a vital part of the success within their ecosystem.

“Companies struggle to engage younger people. Manufacturing Renaissance educates employers on how to work with our kids. It is part of doing the job to increase the opportunities for kids and young adults of color.”

-Erica Staley, Executive Director

Explicitly integrating trauma-informed care into all program operations is critical to supporting the communities MR has set out to impact. Youth and young adults from the hardest hit neighborhoods — in terms of economic disparities and social inequalities — in the Chicagoland area enter MR's doors and training programs. Trauma is their reality. Trainers, both those who focus on teaching technical skills as well as those who focus on work-readiness, are from



institutions a tool for community and economic development. Due to changing relationships within the school system, Manufacturing Renaissance had to evolve, and in 2019 they successfully established the model described above which saw 342 young people attending orientation events. Of those more than 70 signed up to participate in the programming, with 24 completed, 16 enrolled in college and 8 who went into manufacturing employment. On the policy side, as a result of MR's work with

these communities and can, and do, share personal experiences and insights about the barriers to finding career paths and stability. While staff can provide personal stories and be present when day-to-day issues arise, MR is also working to build a network of social services that provides more robust care than MR can provide directly. The awareness of the role trauma plays in individuals' abilities to access, and stick to, career development influenced Manufacturing Renaissance to hire a licensed social worker as their new program director.

Outcomes

Manufacturing Renaissance's goals are to serve individuals and employers, shape institutions and policy, create impact in the short term by increasing access to college and career opportunities for individuals — all of which leads them to their long-term goal of helping communities of color exit poverty and access economic stability. MR originally developed its Career Pathway Services programs as a proof-of-concept illustrating how workforce development can be integrated into educational institutions, making those

Chicago Public Schools, they have become experts in facing and managing the barriers to various levels and manifestations of institutional resistance to scale new ideas, programs, and innovations. MR has taken this expertise and delivered it to the manufacturing community and policymakers through the [Realizing Inclusion and Industry 4.0 conference](#), which brought together teachers, industry leaders, and decision makers to learn about and discuss manufacturing and workforce training programs and new educational models. Manufacturing Renaissance also pushes for policy change via the Chicagoland Manufacturing Renaissance Council, which represents both the private and public sector: manufacturing companies, labor movement groups, nonprofits, government agencies, educators, and community and economic development leaders.

“To scale impact there needs to be an integrated education system, one that brings together the school system and workforce development landscape. There is currently a divide that says while in school you are in the education domain and a month later, after graduating or leaving school, you are in the workforce domain. As a systems thinker I want to explore policies that get education and workforce on the same side, and from the beginning, help people learn about careers and what is possible, and get youth and young adults connected to social services, personal development and career development programs.”

-Erica Staley, Executive Director

The Future [Scaling]

In Chicagoland in 2018, there were approximately 58,000 jobs that went unfilled in the manufacturing sector.² MR admits no one program will be able to single-handedly fill all the jobs in that system, and that it will take many workforce development organizations working on this task. MR would like to double or triple in size as a program over time, through an ongoing process of prototyping program designs and strategies for successful engagement and placement of BIPOC youth in the sector. With this long term growth in mind, for 2021 MR's goal is to increase their direct training enrollment by an additional 50 percent.

Manufacturing Renaissance's scaling process is focused on direct expansion of both programs, increasing enrollment in direct training the upcoming year, and through leveraging insights and impacting policies. On the policy front, MR is pushing for innovation within Chicago public schools, changing how different "pipelines" create different funding barriers, and getting the political systems in place in Chicagoland to advocate for these programs. These changes require a shift in thinking and behavior in the form of resource allocation, at the individual elected official level. MR is translating their on-the-ground lessons learned into policy recommendations and strategies to increase resources to scale the training, increase on-the-job experiences, and build a more robust, trauma-informed social service safety net for youth of color, especially those that are Black and Latinx.

² Revitalizing Manufacturing and Expanding Opportunities for Chicago's Black and Latino Communities https://d4937ac3-176d-43e2-b62d-fb4a5b456873.filesusr.com/ugd/a1c52b_5fabdddc72984563b2408b9fc12b98e6.pdf

Dee Dee Jones

Industry Coordinator

Manufacturing Renaissance

Spend five minutes with native Chicagoan DeeDee Jones and you'll notice her love for connecting people to opportunities in manufacturing. As Manufacturing Renaissance's Industry Coordinator, she's effective at building relationships with both trainees and companies.

When she was a business major at Lewis University, she worked many menial jobs. Wanting stability, she turned to manufacturing.

"I would go to school during the day as a full-time college student, and in the evenings I would go to work in manufacturing. Once I started, I fell in love with it," recalled Jones. Working full-time gave her the financial support that she needed to put herself through college. "In that job, I learned the struggles, as an employee and as an employer." Her experiences in manufacturing made her yearn to become a decision maker in the industry. That's how she found her passion in human resources.

Jones encourages youth to enter manufacturing by showing them examples of young people just like them with successful careers. She emphasizes salaries, reveals the pathways from entry level to management, and underscores the mobility they get from learning portable skills. For those who are less enticed by the potential for employment, she gets their attention by appealing to their entrepreneurial desire.

"You can start off in the company, learn some technologies, some processes and you can do this yourself," said Jones. "If you think it, you can build it, sell it and if it becomes profitable, you can become a manufacturer." Jones shows prospective trainees the link between their hobbies and manufacturing. "I don't sell

manufacturing as the end all and be all," she said. "Use it to get to where you want to go. If it becomes a career, great. If it doesn't, it was an opportunity."

Before trainees leave the program with the hard skills they need to get a job, Jones holds three-hour one-on-one discussions with them to ensure that they have the soft skills to match. Regardless of their level of ambition, she takes specific actions. "I will take that ambitious person and put them in a company that will nurture that," said Jones. When trainees need more motivation, Jones helps them by teaching the company how to understand their personality and what drives them. She considers educating companies this way as her "sweet spot."

Jones is able to give actionable advice because she knows the companies well. "Matching a company's environment to a person's wants, needs, and personality type is key," she explained. According to Jones, building relationships with the trainees and with companies is very easy. It all comes down to three things: "Developing trust, confidence, and communication."

By doing the work, Jones helps trainees find the right company, shift, and position. She leaves very little to chance. "You could be at a great company, but in the wrong position," she said. "I communicate with them



their first day, week, month until they are 100 percent independent.”

Companies love Jones because when it comes to preparing trainees for the job they are about to take, she’s thorough, meticulous, and cares deeply about their success. “If I don’t have anybody, I’m going to tell them I don’t have anybody,” Jones explained. “That’s why I’ve kept relationships for 10-15 years with these employers.” This patience is what keeps employers coming back for more. “I’m not trying to push people. I’m trying to make connections,” she said. “I don’t throw spaghetti on the wall and hope that it sticks. I think that’s what employers appreciate about me. I’m not just in it for me.”

Jim Piper

President

Matot

For programs like Manufacturing Renaissance (MR) to succeed, they need active partners who are willing to both teach and hire new graduates. Jim Piper is one of those partners. As president of Matot, a company that manufactures custom-engineered dumbwaiters in Bellwood, Illinois, Piper and MR have such a deep relationship that many students see the inside of his company even before they work there.

“We offer tours to high school students throughout the year,” said Piper. “Our doors are always open to having DeeDee Jones (Industry Coordinator) and her crew bring 20-25 kids through for a couple hours where we can just talk to them about the type of work we do.” When people drive by Matot, all they see is a nondescript building with no clue as to what goes on inside. When he invites youth in for tours, they get to see manufacturing in action.

“They can see sheet metal get transformed right before their eyes, working across our shop floor to a finished product that’s going to get shipped out the door,” said Piper. “We have fun equipment: we cut steel, we bend steel, and we weld steel. That catches their attention, and leads them to ask good questions like, *how’s that work? what’s that doing?* For me, it’s when they ask the questions like, *hey, what’s that guy making an hour?*” While Piper never divulges wage information, it is that last question that lets him know how interested the youth are in manufacturing. Normally, he responds by describing the type of lifestyle the workers can afford on a manufacturing salary that gives them the means to take care of their family and buy a home. That alone is enough to sway the students. “It’s nice to have those discussions with the youth,” said Piper. “So we’re always welcoming them back.”

Matot goes even further by hiring students for 12- to 16-week summer internships, and by participating in MR’s two-week job

shadowing program. “We’ll have students come for a couple of days, and just sit beside several different types of functions in our company. And that can be with engineering, accounting, customer service sales, and then on the shop floor as well, just to get different experiences within the company,” explained Piper.

Giving students access to opportunities is the key to exposing them to the many facets of a manufacturing company. That is how Piper has managed to hire so many students who go on to become effective workers. Although Matot is a family-owned business, with many veteran employees who have worked there for decades, it is the younger employees who make a difference to the observant students. “When we give our tours, we make sure to introduce them particularly to those younger employees,” Piper described. “*Hey, see this guy, or this young lady? In five years or eight years from now, that could be you.* It’s very relatable.”

Not only does Piper appreciate the work that MR does in preparing students for the workforce, he also could not set up new employees for success without MR teaching him and his employees how to relate to the youth. “They provide us with perspective as to where the



kids are coming from,” Piper explained. “Things like their familial and social situations. Yes, we know, these kids are primarily coming from the West Side and South Side of Chicago. But what does that mean? What are their impressions of manufacturing?” This information helps Piper figure out how to talk to new employees and how his company’s culture can nurture them so that they not only become skilled workers, but feel like a part of the Matot family.

For students who see manufacturing as a path to entrepreneurship, Piper believes that his company’s method of giving interns and new hires a taste of everything is beneficial to their growth. The exposure alone is enough to give them ideas as to what is possible. Highly-engineered and locally-manufactured products such as dumbwaiters can inspire the entrepreneurial interests of students.

“So all of those little touches can be helpful for kids. Whether they’re going to make an app, a delivery service, a commercially available product, or whatever it is, understanding some of the intricacies of how a business gets run is going to help them.”

Kayla Cole

Trainee

Manufacturing Renaissance

If you love meeting people who are living out their passion, then meet Kayla Cole. When she joined the program at Manufacturing Renaissance (MR), she already possessed theoretical and some technical skills. A graduate of the Chicago Women In Trades program, she later got an associate degree in Integrated Systems Technology. To say that Cole was primed for action before joining MR would be an understatement.

Listening to her name all of the things that she learned before joining the program is impressive by itself. “Foundational knowledge in installing, repairing, maintaining, troubleshooting, aligning, and operating industrial equipment,” she listed. “Welding using stick (Shielded Metal Arc Welding), MIG (Metal Inert Gas Welding), and TIG (Tungsten Inert Gas Welding). I had my first exposure to blueprints, measuring devices, and hands-on assembly.” With all of that technical skill, why did she feel the need to join MR?

After completing college, she experienced a period of unemployment that challenged her to sharpen her talents even more. She submitted her résumé for feedback, participated in mock interviews as practice, and was disciplined enough to do self-directed studies of topics in AutoCAD, Excel, Programmable Logic Controllers (PLC), and Python. “During that time, the only thought that was going through my mind was continuous self improvement,” said Cole. She also attended a few job preparation boot camps, even ones that were loosely aligned with what she was looking for. “I had to do everything in my power to make myself an attractive candidate for a manufacturing position.”

If you think being so educated, but experiencing difficulty finding a job would have made Cole doubt herself, you

would be wrong. Such was her desire to make it, that she could not afford to let doubt sneak in. “When I was at Chicago Women In Trades, the first time I struck an arc while stick welding, that was it for me,” Cole recalled. “I knew that I was going into the great unknown, and everything that is going to be thrown my way, I’m going to overcome it. I’m going to excel at the task at hand. I’m going to finish this to the end, and I’m going to leave a legacy for those after me.”

When she read about MR on a Facebook group called Chicago Area Resources For Employment, Housing and Education, she seized the opportunity. “MR was not only a refresher for me, they also stressed foundational technical skill,” described Cole. She felt that in many ways, the training at MR expanded upon and broadened the scope of her previous education. “No program is redundant, improvement can always be found. And I highly recommend MR for all levels of manufacturing.”

For Cole, the advantage that differentiated MR from the job preparation boot camps that she attended prior to joining the program was its manufacturing focus. “I was having problems jumpstarting my manufacturing career, and this is where MR stepped in,” she explained. “In comparison, my prior experience at other boot camps was like having a toothache, but going to a chiropractor versus going to an actual dentist.”



Beyond her training, she sees herself developing a lifelong relationship with MR. MR is a source of support that she cannot get anywhere else. “I don’t have any family in manufacturing, and none of my associates are in manufacturing. So I’m literally a one woman show,” explained Cole. “It can be an isolating experience not having anyone to talk to about what you’re going through or even getting incredible advice.”

A young adult, Cole is only at the beginning of her career, but speaks with the wisdom of a sage veteran. Although she wants to become an Electrical Engineer with the skill set of a Master Troubleshooter, her idea of success is grounded in who she is. “Success to me, is ultimately about internal respect,” she said. “I display respect for myself in completing the job with accuracy, speed, and within budget constraints.”

For Cole, this internal respect outwardly looks like professionalism to others, and is vital for making it in manufacturing. “Sometimes you can look for respect from so many people, then you end up compromising yourself trying to please somebody else. Internal respect means I’m going to come here, and I’m going to do what the company has hired and paid me for.

Torres Hughes

YMA Coordinator

Manufacturing Renaissance

In 2012, just a few weeks before graduating high school, Torres Hughes did something that few teenagers get to do. He got to speak on Capitol Hill in Washington D.C. about the value of manufacturing.

While a student at Austin Polytechnical Academy High School in Chicago, Hughes spoke to policymakers about the importance of manufacturing programs for teens. Little did he know, but in the evening of the day that he spoke on Capitol Hill, he would meet his first employer in manufacturing: Steven Kersten, president of Chicago-based WaterSaver Faucet Co.

“He told me that if college didn’t work for me when I graduated, I can come and work for him,” recalled Hughes. A week before graduation, Hughes did not feel ready for college nor did his parents have the funds to send him, so he gave Kersten a call. “I told him that I would like to work for his company,” Hughes said, “and he hired me.” A week later, right out of high school, Hughes was working in manufacturing.

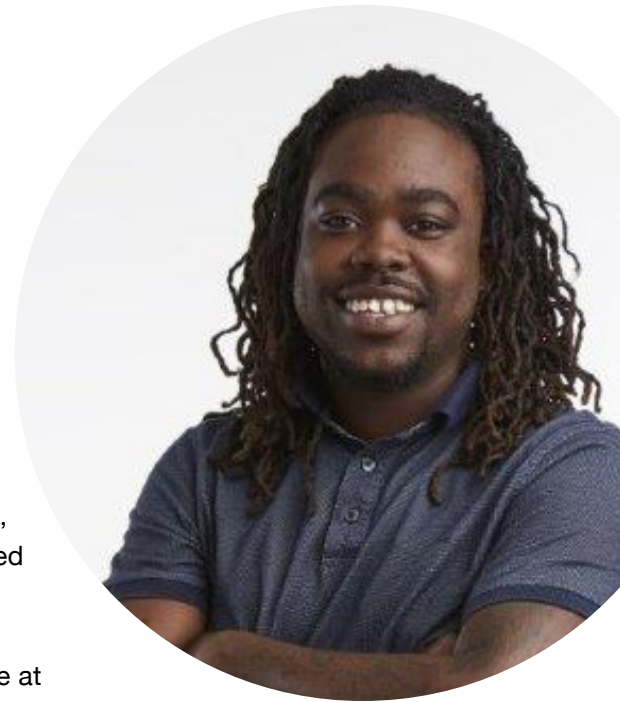
Despite his assertiveness in taking the opportunity, the first couple of months were not easy for the new employee. “I kind of got frustrated, it was very new,” recalled Hughes. “Getting up at six o’clock in the morning, working a full week, was kind of fresh for me, and so I quit.” Hughes spent the next several months contemplating whether he made a huge mistake. That’s when he turned to his mentor Bill Vogel, a staff member at Manufacturing Renaissance (MR), where Hughes had received training, shadowing opportunities, factory field trips, and advice since his sophomore year of high school. Vogel’s advice to Hughes: just ask for your job back.

Hughes did as his mentor advised, and to his surprise, Kersten re-hired him.

During his time at WaterSaver Faucet Co., Hughes worked as an assembler and a machine operator, but his time at the company was cut short six months later by a series of layoffs. With his first experiences in the industry under his belt, Hughes found another job at Freedman Seating Company just four months later, where he was exposed to a lot more of what manufacturing had to offer. “I started out as a machine operator on a press brake machine, then gradually learned more and went onto more advanced machines,” said Hughes. “A couple years later, I was offered a job to be a quality inspector.”

At Freedman, Hughes benefited from strong relationships with older coworkers who encouraged him and took him under their wings. Some of those relationships are still intact today.

As much as he was learning from the different departments at the company, he always had a passion to work in the community. Since he was six years old, he saw himself as a person who would give back to the place that raised him. He began to see motivating youth to join manufacturing as a way to do that. He turned to MR to see if he could volunteer with them, but shockingly they were not interested in him being a



volunteer. They wanted to offer him a paying job, which Hughes gleefully accepted.

“I could not have planned that myself. Sometimes the best journeys are the ones that just happen. It makes me more grateful,” Hughes said. “The program coordinator position kind of just fell in my lap. So I’m very appreciative of that.”

At MR, Hughes uses the twists and turns of his experiences to show youth what is possible. He is a walking advertisement for MR and the industry as a whole. “When I speak with youth, I let them know that I come from the same background that they come from. I grew up in Austin, on the West Side of Chicago, and I’ve been here all my life,” said Hughes. “The same things that they see, on a day-to-day basis, I see it too.” He sees his role at MR as being more than just a program coordinator. He is an inspirational figure in the community and a life changer.

The universal advice that Hughes gives to youth about joining programs like MR: “Take this opportunity to gain a skill, because the skills are going to pay the bills.”

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](#)

