



**Division of
Science, Technology
& Innovation**

A Division of Empire State Development

New York Manufacturing Extension Partnership 2023 Report

December 2023

NYSTAR’s New York Manufacturing Extension Report (2023)

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PROGRAM OVERVIEW AND PURPOSE

Empire State Development (ESD) is New York's chief economic development agency. The mission of ESD is to promote a vigorous and growing economy, encourage the creation of new job and economic opportunities, increase revenues to the State and its municipalities, and achieve stable and diversified local economies. Through the use of loans, grants, tax credits and other forms of financial assistance, ESD strives to encourage private business investment and growth to spur job creation and support prosperous communities across New York State.

ESD's Division of Small Business & Technology Development (SBTD) supports the growth of small businesses, defined as firms with 100 or fewer employees, providing and implementing programs and services that facilitate access to capital, technical assistance, technology assistance, and venture funding.

ESD's Division of Science, Technology & Innovation (NYSTAR), within SBTD, is designated as the New York Manufacturing Extension Partnership (NY MEP). NY MEP is part of the National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership (NIST MEP), which is a public-private partnership with centers in all 50 states and Puerto Rico dedicated to serving small and medium-sized manufacturers. NY MEP was awarded over \$6 million in federal funds per year for the period 2016-2025. New York State adds approximately \$3.7 million in state funding.

NY MEP is a network of 11 organizations that provide growth and innovation services to small and mid-sized manufacturers in every corner of the state to help them grow and thrive. NY MEP directs funding it receives to one sub-recipient organization in each of New York State's 10 economic development regions, along with one statewide center, for a total of 11 centers. Each regional center works independently with manufacturers in their region and will collaborate with other centers as additional assistance or expertise is needed. Each center offers a broad range of services that include, but are not limited to:

- Re-shoring production;
- Manufacturing scale-up;
- Sustainable manufacturing;
- Supply chain;
- Innovation strategies;
- Process improvements;
- Quality control;
- Technology acceleration;
- New market strategies;
- Product development and prototyping;
- Workforce development;
- Entrepreneurial and start-up assistance, including financing and grant information; and
- Other services tailored to regional priority industry clusters.

This report covers calendar year 2022 and lists each center with required and additional information included. Information about each center includes:

NYSTAR’s New York Manufacturing Extension Report (2023)

- Activities and accomplishments (including new services developed) as reported by the centers;
- Types of companies assisted;
- Impacts generated;
- Support of a Regional Cluster;
- State, federal and match (other sources) funding; and
- Industry-oriented workforce training.

FuzeHub, the statewide center, primarily focuses on marketing system capabilities; hosting awareness and training events; serving as a trusted advisory; and referring companies to the most appropriate regional MEP or other innovation asset for necessary assistance.

NIST MEP reviews and scores the work of NY MEP centers as a collective and not each individual center. They collect impacts from companies receiving assistance from our 11 centers using a third-party survey house. Below is a summary of the collective impacts, followed by a report on each individual center and their impacts. On the non-job impacts alone, the program is seeing 100:1 ratio on recognized impacts to dollar of government investment (state + federal). The final section of the report includes additional charts with greater detail on the NY MEP impact metrics.

NY MEP Impacts:

	01/01/2022 - 12/31/2022
Number of unique companies served	506
Number of jobs created	1,399
Number of jobs retained	5,321
Increased/retained sales	\$860,555,860
Cost Savings	\$36,297,312
New investment	\$189,705,491
Non-job Impacts Total	\$1,086,558,663

NY MEP Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$3,773,000
Federal Funding	\$5,985,194
Matching Funds	\$2,375,000
MEP-Dedicated Employees	74.38

ESD has prepared this report to fulfill disclosure obligations set forth in NY Public Authorities Law Sections 3102A (Industrial Technology Extension Services) and 3102D (Technology Development Organizations).

**Insyte Consulting
Western New York Region
Benjamin Rand, President**

Activities and Accomplishments:

In 2022, Insyte Consulting (Insyte) celebrated the 40th Anniversary of our founding and surpassed \$4 Billion in cumulative economic impact, including over 18,000 jobs created or saved, since NIST MEP’s impact survey was established in 2000. Insyte reached these milestones by continuing to offer value-added consulting services, including new services, to meet the needs of Western New York (WNY) manufacturers, including new branding, invoice auditing and workforce services. For example, Insyte Consulting created a self-administered ESG (Environmental, Social, Governance) Program for the County of Chautauqua Industrial Development Agency designed to help Chautauqua manufacturers to better attract and retain critical workforce. This program included researching and writing an ESG Primer which describes many of the various aspects of ESG; creating an appendix with links to various resources and tools related to ESG; compiling an appendix of related books and articles for further reading; and developing an ESG self-assessment for manufacturers to point them to areas of opportunity in their own business.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	25
Number of jobs created	179
Number of jobs retained	1383
Increased/retained sales	\$420,380,000
Cost Savings	\$2,847,000
New investment	\$28,845,300
Non-job Impacts Total	\$452,072,300

Summary of Centers Support of Regional Cluster:

Insyte Consulting continues to serve our Priority Clusters (materials and machinery) and to work closely with our Regional Economic Development Council (REDC) and other partners to further WNY’s strategy, particularly as it pertains to advanced manufacturing and entrepreneurial support. In 2022, Insyte Consulting was part of a consortium, led by the WNY REDC, that applied for and was awarded a \$25 million EDA “Build Back Better” grant. This award will fund Insyte Consulting and Buffalo Manufacturing Works to conduct the “SHIFT 2.0” Program to introduce advanced manufacturing technologies, particularly cobotics, into small WNY manufacturers over a 3-year period beginning in 2023. Insyte Consulting also partnered with the Jamestown Board of Public

Utilities to explore the potential for alternative energy manufacturing in WNY under a NYSERDA grant. The program included a study of existing industrial equipment/machinery manufacturers to identify capabilities and opportunities followed by individual, customized project support for a select number of those manufacturers to assist them in targeting and entering these new markets.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$290,000
Federal Funding	\$560,000
Matching Funds	\$270,000
MEP-Dedicated Employees	11.31

Industry-Oriented Workforce Training:

Throughout 2022, Insyte Consulting worked with our partners at the Northland Workforce Training Center (NWTC), the Buffalo Niagara Manufacturing Alliance (BNMA), the Manufacturing Association of the Southern Tier (MAST) and others to support workforce training and related initiatives. Insyte Consulting’s president, Ben Rand, continued to serve as the Secretary of the NWTC Board of Directors while NWTC secured significant NYS funding to further its efforts to train non-traditional, minority and female advanced manufacturing workers. Insyte Consulting was invited to partner with MAST and others in the Southern Tier on an EDA workforce grant to implement NWTC best practices which was ultimately unsuccessful. Insyte Consulting is supporting BNMA’s workforce efforts, particular around apprenticeships and secondary school outreach, modeled on the National Association of Manufacturers “Dream It! Do It!” program, with resources, funding and advice.

NextCorps, Inc.
Finger Lakes Region
James S. Senall, President

Activities and Accomplishments:

NextCorps project activity was very strong this year, with 102 substantive projects completed during the year and 120 projects ongoing at the end of 2022. Sales activity was concentrated on engaging firms in the RG&E/NYSEG/National Grid electric service area to leverage the Manufacturing Productivity Program/Manufacturing Accelerator Program reimbursement. During 2022, NextCorps submitted 68 completed RG&E/NYSEG Manufacturing Accelerator Program (MAP) applications. The MAP is a significant contributor to MEP project activity in this region.

The Manufacturing Readiness Program, part of the NIST MEP Competitive Awards Program (CAP), was launched in October 2020, and work continued throughout 2022. Objectives included development of an online platform to educate early-stage companies on key issues in scaling up manufacturing and bridging the gaps between hardware technology inventors/entrepreneurs and contract manufacturers to increase the rate of new product commercialization, job creation and economic growth. A pilot cohort of companies in the Finger Lakes region was held to develop their hardware-based manufacturing capabilities. A second pilot took place in Pittsburgh, in conjunction with Innovation Works and the Pittsburgh area MEP, Catalyst Connections.

NextCorps also continued to execute NYSERDA’s M-Corps program (aka Scale for ClimateTech) to assist cleantech firms transition from prototype products to full-scale production. The program graduated its fourth (4th) cohort in 2022. These companies executed projects ranging from design reviews to building prototypes. Additionally, NYSERDA provided funds to provide direct help to ClimateTech hardware/manufacturing readiness advancement projects, supporting individual company projects with \$25K - \$75K each.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	48
Number of jobs created	262
Number of jobs retained	662
Increased/retained sales	\$120,649,707
Cost Savings	\$8,493,830
New investment	\$44,967,414
Non-job Impacts Total	\$174,110,951

Summary of Centers Support of Regional Cluster:

A total of 22 substantive projects were completed with companies within the Optics, Photonics, and Imaging (OPI) cluster in 2022 with 19 projects ongoing at the end of the year.

The Luminate accelerator program (focused on helping startups in the optics, photonics, and imaging sector), funded by ESD, held its Finals competition in September 2022 in conjunction with the Optical Society's International Frontiers in Optics + Laser Science (Fio/LS) conference. This event marked the completion of cohort 5 of the five-year, \$25M Luminate program. Since its inception, Luminate has invested \$15M in 50 startups. The companies in the portfolio have raised an additional \$194M and now share a combined net worth of \$645M. Many of the companies are establishing U.S. operations or some aspect of research and manufacturing in the Rochester region—which continues to be the epicenter of the OPI industry in North America. The companies have 160 employees in the Finger Lakes region with dozens of additional positions open.

Lidrotec was the first-place winner, for which it received a \$1M equity investment. Other top finishers were Custom Surgical (\$500,000), Alertgy (\$250,000), MEETOPTICS (\$125,000), and SCOUT (\$125,000).

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$290,000
Federal Funding	\$560,000
Matching Funds	\$270,000
MEP-Dedicated Employees	2.76

Industry-Oriented Workforce Training:

Training was the primary content of three (3) completed projects. Another eight (8) projects had some training component. Training broadly covered entry, mid and leadership levels of employees. Continued efforts in mechatronics focused on enhancing technical skills. Leadership training included train-the-trainer and supervisor development training. Sales, supply chain, cybersecurity, continuous improvement, and quality rounded out the training efforts.

**Alliance for Manufacturing and Technology
Southern Tier Region
Carol Miller, Executive Director**

Activities and Accomplishments:

Alliance for Manufacturing and Technology (AMT) continued to execute its 2020-2023 strategic plan, yielding enhanced organizational performance and alignment with stakeholder priorities. AMT’s business growth, fueled by in-house capabilities and third-party collaborations, focuses on providing clients impactful end-to-end business services, focused on Workforce, Industry 4.0, and Supply Chain Management.

In 2022, AMT expanded its consulting team, introduced Industry 4.0 services, and conducted successful technology pilot projects. Notably, one team member supported the Build Back Better initiative for the New Energy New York (NENY) battery and energy storage supply chain.

AMT drove transformative process improvements, optimizing information, material, and product flow. AMT offered training in Lean Thinking, Value Stream Mapping, and more. Quality Management System projects included ISO audits, Management Reviews, and support for ISO 9001:2015 certification.

AMT’s services extended to cybersecurity projects, assisting clients in compliance with the NIST 800-171 Standard and Level 3 CMMC preparation. Completed services encompass marketing, TWI training, leadership development, software projects, and partnerships with economic development entities for robust supply chains. AMT remains committed to guiding companies for successful participation in supply chains, promoting growth and profitability.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	43
Number of jobs created	115
Number of jobs retained	964
Increased/retained sales	\$131,033,722
Cost Savings	\$4,563,428
New investment	\$13,449,200
Non-job Impacts Total	\$149,046,350

Summary of Centers Support of Regional Cluster:

AMT is dedicated to supporting key clusters Transportation, Advanced Manufacturing, and Agriculture in the Southern Tier. AMT focuses on providing ongoing guidance to companies in Advanced Manufacturing and Transit Industry. In 2022, AMT completed twenty (20) projects in our priority cluster and multiple webinars.

In Q2 2022, AMT concluded a SPIR grant with Binghamton University, developing a survey tool to assess Industry 4.0 readiness for regional manufacturing businesses. Surveying forty-five (45) companies, AMT identified opportunities and barriers to adopting modern technologies. AMT also conducted two Innovation Audit pilot projects to help companies apply cost-effective, practical technology for operational improvement.

AMT actively engaged in regional meetings, including REDC Executive Committee, Advanced Manufacturing Workgroup, and Workforce Development sessions. AMT leveraged partnerships for diverse assistance, attending/sponsoring events like the Annual Global Trade & Investment Forum, NAmTrans Transportation & Aerospace B2B/Supply Chain Event, and Manufacturing Training Funds online seminar.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$195,000
Federal Funding	\$380,000
Matching Funds	\$185,000
MEP-Dedicated Employees	6.33

Industry-Oriented Workforce Training:

Workforce Training is a top priority for AMT, evident in the eighteen (18) projects conducted in 2022 to support regional manufacturers. AMT actively contributed to updating the Southern Tier regional strategy as part of the REDC Workforce and Advanced Manufacturing Workgroups. Collaborating with regional SUNY community colleges, AMT co-hosted a Manufacturing Training Funds webinar, showcasing available programs and funding for regional manufacturers. AMT continued to support the Immigrant & Refugee Workforce Readiness program, actively participating on the employment committee, and engaging in discussions with NYSTAR and NIST on how to better support the effort. In partnership with Job Corps, AMT continued a workforce development project in Oneonta, utilizing Tooling U – SME, an online training platform. AMT and IAED partnered to conduct a Direct-to-Work pilot to transition high school graduates into entry-level production positions. AMT secured a Susan Harwood grant; AMT will offer OSHA Ergonomics training in 2023 to assist manufacturers in addressing a top workplace safety issue.

**Central New York Technology Development Organization
Central New York Region
James D’Agostino, CEO and MEP Center Director**

Activities and Accomplishments:

The Technology Development Organization (TDO) provided numerous services throughout the year including: lean/process improvement support to improve productivity and overall operation; Kaizen support to improve shipping processes and overall productivity across the operation; ISO9001/AS9100 support for formal ISO 9001/AS9100 certification; Toyota Kata coaching resulting in numerous impactful process improvements including productivity, quality, and delivery; and reshoring/supply chain to develop/locate local injection molding tooling suppliers.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	136
Number of jobs created	141
Number of jobs retained	602
Increased/retained sales	\$79,800,000
Cost Savings	\$7,143,820
New investment	\$15,993,235
Non-job Impacts Total	\$102,937,055

Summary of Centers Support of Regional Cluster:

TDO trained 11 individuals in Lean Six Sigma Green Belt (LSSGB) and Lean Six Sigma Black Belt (LSSBB) methodologies including data-based decisions and advance analytics. In addition, TDO provided follow-up coaching to 29 LSSGB and LSSBB trainees using data-based decisions and advance analytics.

TDO facilitated a local food manufacturer seeking Industry 4.0 solutions through a CESMII grant. The project utilized the CESMII Smart Manufacturing Innovation Platform to collect and contextualize data from sensors connected to the Cooling Tunnel/Kettle/Mixer system, create and implement a data-driven algorithm that predicts product quality and suboptimal performance based on operational performance all along the enclosed 70-foot cooling tunnel, and advise what interventions are needed to ensure conforming product.

TDO developed a Toyota Kata / lean six sigma “dojo” environments for local manufacturers to promote the use of data and quantitative analysis to inform decisions. TDO worked with RIT’s COE for the Industry 4.0 Transition Assistance Program. The program’s overall goal was to obtain data through regional surveys and ultimately identify manufacturers seeking Industry 4.0 solutions. TDO developed webinars as a part of this program that were delivered in 2022. TDO continued its Kata

Storyboard related to Industry 4.0 and Data to Decisions (D2D). The objective was to provide regular D2D projects each quarter in support of the cluster focus.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$195,000
Federal Funding	\$380,000
Matching Funds	\$185,000
MEP-Dedicated Employees	5.00

Industry-Oriented Workforce Training:

In 2022, TDO provided foundational blueprint reading and Geometric Dimensioning and Tolerancing workforce training to numerous manufacturers and apprentices through several cohorts. TDO provided workforce training and mentoring to multiple maintenance apprentices at a precision machine shop, which helped develop critical workforce skills, including maintenance troubleshooting and programming. TDO facilitated leadership development workforce training at a precision machine shop, which allowed the manufacturing team to develop critical workforce leadership skills. TDO also facilitated industry-oriented sales training for a printing manufacturer, which allowed the manufacturer to grow its top-line and development foundational workforce skills. Finally, TDO provided Job Relations training to a precision component manufacturer, which enabled better front-line supervisory skills and an improved overall workplace culture.

**Mohawk Valley Community College Advanced Institute for Manufacturing
Mohawk Valley Region
Cory Albrecht, Center Director**

Activities and Accomplishments:

Mohawk Valley Community College (MVCC) Advanced Institute for Manufacturing (AIM) experienced success during the reporting period with the Mohawk Valley's Microelectronics Industry. This growing industry in the region employs more than a thousand highly skilled technicians. The industry has heavily relied on MVCC and AIM to provide them with technical training programs in Electrical, Mechanical, Pneumatics, and Systems Automation. The industry is also very involved with the college from a career recruitment perspective as they sponsor AIM's events, attend MVCC's workshops, and had a steady presence on the campuses in order to connect with the future workforce in the Mohawk Valley Region.

While technical skills building and process improvement remain the top programs that the clients seek, the program growth was within the Supervisors and Mid-Level Managers Training. Together with MVCC's Supervisor's Institute (SI) and the Center for Leadership Excellence (CLE), AIM was able to deliver several customized programs to manufacturers in the region. AIM received an average NIST MEP client survey score of 90 for the 2022 year, providing the measurable data that suggests that the Mohawk Valley manufacturers are satisfied with the services being delivered to them and the program impacts are being realized.

While project revenue and client opportunities remain strong, there is still a need for technical field staff. AIM is currently looking to develop third party contractor relationships for safety training, process improvement, and electrical/mechanical instruction. The MVCC SUNY Apprenticeship Program continues to support advanced manufacturing trades in New York State. The SUNY Apprenticeship Program has surpassed the \$6 million mark in total related instruction funds awarded to SUNY Community Colleges and more than 275 apprentices have received no-cost related instruction in NYS for advanced manufacturing trades.

In 2022, AIM also hosted the "Vitality in the Valley" event at Herkimer County Community College. This B2B event was made possible by AIM's partnership with FuzeHub and was co-sponsored by the Herkimer County IDA, SUNY Cobleskill, and Herkimer County Community College. The event brought together the state's agricultural and advanced manufacturing companies and resources for a business-to-business event. More than 110 people attended the event and it was a tremendous success as FuzeHub reported that it was their best attended in person event since COVID-19.

On September 28, 2022, AIM and partners from OHM BOCES Schools to Careers Program hosted a "Manufacturing Tours Field Trip" in which over 50 teachers and guidance counselors were transported to three of the Mohawk Valley's most innovative advanced manufacturing companies, Indium, Danfoss Silicon Power, and Wolfspeed. Throughout the day, the educators learned the importance of Microelectronics Manufacturing and the need for new skilled trade workers. The goal of these trips was to enlighten our educators regarding how far the advanced manufacturing

community has progressed throughout the years. AIM and OHM BOCES staff provided them with the tools and information that is critical to encourage student interest in skilled trades.

Each year, Manufacturing Day (MFG Day) is held on the first Friday in October to present to students, parents, and the public what modern manufacturing is all about. This year, AIM organized a series of events to highlight the importance of advanced manufacturing in the Mohawk Valley. MVCC and AIM partnered with FuzeHub to host Manufacturing Day 2022-Mohawk Valley. The group traveled to Rome Free Academy’s (RFA) 9-12 grade technology classroom to discuss career opportunities. This visit included presentations by Cory Albrecht, AIM Director, Everton Henriques from FuzeHub, and Mike Baron from the Expertise Project.

During this visit, AIM awarded more than 100 students with Expertise Project licenses. These licenses will allow the students to sample and view advanced manufacturing careers and pathways in the region through short technical videos of jobs in the manufacturing workplace. RFA was awarded two VR headsets along with the 100 licenses to experience advanced manufacturing careers and to embed the new technology into their classrooms.

Also, on Manufacturing Day 2022-Mohawk Valley, AIM was joined by fourteen students from the MVCC STEM Program to tour Danfoss Silicon Power's manufacturing facility in Marcy, NY. During this visit, students were educated on the day-to-day activities at the company and toured the building. MVCC students were presented with job opportunities that could be available for them upon graduation.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	25
Number of jobs created	184
Number of jobs retained	860
Increased/retained sales	\$20,909,948
Cost Savings	\$2,044,500
New investment	\$18,716,500
Non-job Impacts Total	\$41,670,948

Summary of Centers Support of Regional Cluster:

MVCC’s AIM strongly engages with the region’s priority cluster of cybersecurity. In the first quarter of 2022, AIM constructed a marketing campaign that focused on small and medium size manufacturers in the industries not normally covered by Department of Defense contracts. Companies that are not required by prime contractors to focus on cybersecurity tend to have a “blind spot” to the subject that leaves them vulnerable to a variety of damaging outcomes. This

marketing campaign took place via a combination of e-mail outreach, phone and Zoom meetings, and in-person visits.

Additionally, AIM’s Cybersecurity Coordinator Paul LaPorte and Cybersecurity Specialist Tanya Macri, completed their Cybersecurity Maturity Model Certification (CMMC) training and received Registered Practitioner status from the CMMC accreditation body. This status will allow the two to conduct official CMMC consultations for manufacturers to prepare them for forthcoming CMMC audits and to assist in the areas of information gathering and preparation.

During this time, AIM also met with the MEP Center Directors to discuss the needs of manufacturers in those respective areas, as well as to provide information with changing requirements and status updates on projects completed in New York State from the previous year.

During the second quarter of 2022, AIM began efforts to expand their technical capabilities by adding the service suite “Intruder”, which enabled AIM to provide detailed vulnerability scanning for organizations to help provide information on any weaknesses regarding external attacks. AIM also acquired licensing for a phishing simulation service for companies called PhishingBox. This service targets employees of an organization with a simulated phishing campaign in an attempt to discover any employees that need additional cybersecurity awareness training to prevent them from sharing confidential information with unauthorized parties.

The third quarter of 2022 included a continued shift in focus towards outreach and education for small and medium manufacturers outside the Department of Defense space. AIM continued to pursue the introduction of new regional manufacturers to the NY MEP System through cybersecurity projects as well as through other areas of need. AIM also attended the MACNY Cybersecurity Summit and collaborated with IT service providers as well as potential clients.

During the fourth quarter of 2022, AIM experienced an increased demand for vulnerability scanning, phishing testing, and ongoing consultation through remediation that led to projects that fell outside of the usual activity. AIM’s Cybersecurity Coordinator, Paul LaPorte, took part in a panel discussion regarding cybersecurity at the New York State Innovation Summit. This panel discussion consisted of cybersecurity experts in contracting, academia, and government. The event provided information to manufacturers in attendance regarding current trends in the cybersecurity industry, as well as ways to maximize their current infrastructure to protect controlled information.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$195,000
Federal Funding	\$380,000
Matching Funds	\$185,000
MEP-Dedicated Employees	6.00

Industry-Oriented Workforce Training:

AIM continuously works in collaboration with numerous workforce partners to serve the employers in the Mohawk Valley Region. The region consists of more than 400 manufacturers and covers six counties. Over the course of the last year, AIM has provided a broad scope of customer specific training that includes in-person and virtual presentations. The topics of some of these workforce trainings include Leadership and Communication, Introduction to Lean Practices, LEAN Six Sigma Green and Yellow Belt Preparation, ISO Quality Management System, OSHA Safety Training, employee training on operation and process of site-specific machinery, and Customized Technician Training. MVCC provides two campuses in the region that support in-person training programs for employers. The campuses are equipped with classrooms, labs, and machinery to offer a “hands-on” experience for regional employers. AIM’s partnership agreements with both Herkimer College and Fulton Montgomery Community College also provide for substantial classroom and lab space. This enables AIM MEP to reach across the entire Mohawk Valley Region and provide high-impact customized training.

In addition to the in-person presentations, AIM continued to build its library of virtual training that address specific customized needs of employers. This method of delivery allows for greater flexibility to meet employers where they are at in the timing of training, direct access to training materials 24 hours a day that includes: Basic Electricity, Motors and Controls, HVAC, Machining Basics, Shop Math, Blueprint Reading, Professional Power Skills (Soft Skills), Leadership and Communication, and SDS/Fire Safety. The on-demand training is one of the programs areas that is experiencing the most growth. With new delivery technology, AIM can provide these high-demand training modules to dozens of advanced manufacturers in the State.

These projects are developed and supported by utilizing resources of independent consultants, SUNY partner colleges, the Workforce Development Institute, National Grid and NYSEG economic development partners, local and state economic development organizations, SUNY Central, and the New York State Apprenticeship Program.

**CITEC Business Solutions
North Country Region
Steve Lockwood, Center Director**

Activities and Accomplishments:

2022 was a success for CITEC both in terms of impacts and finances, reflecting regional emergence from the pandemic, and the need for businesses to refine and improve. CITEC's small team of experienced and trusted advisors was in demand.

The adaptations of virtual training and assistance that were gained through the pandemic continue to prove useful. While not optimal for every application, it is definitely a useful tool to have in the mix for reaching clients across this large rural region. CITEC has leveraged virtual training to assist clients across the national network, providing Lean Six Sigma training for the Nebraska MEP, and Project Management for Pennsylvania. New partnerships were developed and strengthened with Illinois and Vermont MEP Centers as well.

CITEC's clients continue the emphasis on bottom line growth, focusing on Operational Excellence. This is driven, interestingly, by workforce challenges. The intended aims are often process improvements to increase efficiency, eliminate waste, reduce scrap and rework, but the biggest impact is often on improving employee engagement. The people who do the work, it turns out, are the people who know the best way to do the work. The straightforward truth is that when workers are engaged to solve problems, not only do they solve problems, but they also feel more committed to their company and to solving more problems. The solution to the efficiency issues also offers some relief on the workforce issues.

Lean 101 training was leveraged into more advanced Lean White Belt or Lean Six Sigma training by several companies in 2022. Those training programs include project components which tend to be more successful when teams have that basic Lean 101 training, and everyone understands where the goal is from the outset, setting up good impacts from these projects for the coming year.

Another way CITEC addresses workforce concerns for our clients is through Leadership Training. Effective leaders, supervisors and managers can reduce employee turnover by creating an organizational culture that attracts and retains a strong workforce. Training and developing high-potential employees for internal supervisory and leadership roles is an important way to reduce hiring costs and turnover. CITEC has developed and refined management and leadership training to ensure that people-managers at all levels of an organization have the skills they need to create a positive workplace culture. This involves understanding how to communicate effectively, support, coach, and motivate employees, build strong teams, handle conflict, and manage change. In addition to those core skills, CITEC also teaches senior managers how to practice emotional intelligence, manage multi-generational teams and concrete ways to enhance workplace culture. Through funding by the Alcoa Foundation, CITEC has been able to offer this training at a reduced rate to manufacturers through 2022 and 2023.

One area that can be particularly difficult is finding skilled experts to fill permanent positions or to manage specific projects. CITEC's team has deep experience in manufacturing, production, sales,

marketing, and more. CITEC staff fills roles as project managers and serves on teams in a temporary capacity until the exact right candidate fills the post. At Arconic in Massena, there was a gap in the extrusion area during a time when major maintenance and machine overhauls needed to be done. CITEC is able to offer mechanical engineering support on an ongoing basis to ensure the right replacement parts are located, and the projects are managed safely and efficiently.

The field of Human Resources is in a state of constant change and challenge, and keeping up with labor law changes and compliance can be difficult and time-consuming. More than a decade ago, CITEC spearheaded an HR Consortium especially for small facilities that don’t have large HR teams to keep them updated on labor law changes and best practices, as well as provide crucial HR information and professional development through quarterly meetings, special-topic presentations by legal experts, guest speakers, and cross-member communication and networking opportunities. 2022, post-COVID, was a good time to reinvigorate the group with a new membership structure, new webpage, renewed in-person meetings and new tools including a Slack channel.

In-person Safety Day was also revived in 2022, providing an opportunity for Safety professionals across the region to learn about new OSHA regulations, gain some new insights, and freshen up their toolboxes. This is a great touchpoint for regional manufacturers.

Through a partnership with the Adirondack North Country Association (ANCA) and the Center for Pandemic Response, CITEC was able to reach some very small start-ups and manufacturers that would not ordinarily cross our paths at this point in their evolution. CITEC did get to work with a growing winery and cheesemaking operation and are looking forward to those developing into long relationships.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	4
Number of jobs created	67
Number of jobs retained	184
Increased/retained sales	\$13,565,000
Cost Savings	\$1,400,140
New investment	\$8,818,573
Non-job Impacts Total	\$23,783,713

Summary of Centers Support of Regional Cluster:

The North Country’s Regional Cluster is transportation equipment and materials, and aerospace. CITEC’s Executive Director serves on the board of advisors of NAmTrans, the North American Center for Excellence in Transportation, which serves more than fifty (50) manufacturers in the sector across the region building active working partnerships between the cluster and other clusters across NYS, Quebec, Ontario, and beyond. NAmTrans helps fund projects for CITEC’s

cluster clients. NAMTrans hosted the Business Rendezvous Quebec, strengthening relationships with cross-border companies, and NAMTrans parent company, the North Country Chamber of Commerce hosted its annual Business Expo in May, providing networking opportunities for cluster companies. FuzeHub’s Solutions Forum in Corning in October provided good networking opportunities for North Country cluster companies as well.

CITEC provided services for cluster companies including Vapor Stone Rail, KHROME, CAMSO and Imeco in the eastern part of the region, and Metal Craft Marine in the western part of the region.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$195,000
Federal Funding	\$380,000
Matching Funds	\$185,000
MEP-Dedicated Employees	7.00

Industry-Oriented Workforce Training:

For several years, even before the pandemic, clients noticed a lack of workforce readiness in entry level employees including the most basic understanding of general workplace expectations such as regular attendance, work ethic, teamwork, appropriate cell phone use, respect for company property, and proper work attire. At the same time, many workers didn’t feel they had proper training in effective problem-solving, interpersonal communications, time- and stress-management, or conflict resolution. With that in mind, CITEC developed an eight-hour training program to quickly get workers up to speed. But employers want employees to come to them with these skills, and they don’t want to invest in employees that may not come back after the lunch break. The Arconic Foundation was willing to take a risk, pay for this training for 100 individuals, and then let us track whether the training improved retention and job performance. This funding was approved in 2021, but at that point, employers weren’t ready to participate as they were still scrambling through the pandemic. 2022 allowed for the training to begin and evaluation as to the outcomes will occur in 2023.

As mentioned above a 2022/23 grant from the Alcoa Foundation has allowed for more individuals and companies to participate in Leadership Development by participating in CITEC’s Manager Development Essentials, Leadership Development Essentials, and Critical Skills training by allowing us to take \$500 off of the cost of the training. It will be interesting to see the impact of these additional resources for companies in 2023.

Again, Lean training that is intended to boost productivity also has the advantage of boosting employee engagement. Many of our clients are rebuilding company culture through prioritizing “respect for the people,” as their basic tenet and it is paying off.

Workforce challenges are not limited to entry- or floor-level employees. It is also particularly difficult to find skilled experts to fill permanent positions or to manage specific projects. CITEC’s team has deep experience in manufacturing, production, sales, marketing and more and

throughout 2022, CITEC filled roles as project managers, process engineers, quality managers, and operations managers. As temporary leaders, our business advisors model appropriate leadership skills and practices for the companies CITEC work with that are facing difficulties filling those more technical roles.

CITEC serves on a Workforce Working Group in St. Lawrence County. Throughout 2022 that working group has put resources toward starting a program to quickly train people to start home child care programs to address workforce child care shortages; has explored developing a fiber splicing apprenticeship program; has continued a CDL program which is a partnership with the IDA and SUNY Canton; and worked with the IDA to secure and deploy ARPA funding for workforce development in areas of new hire and existing worker training, CDL-A, childcare, heavy equipment operator and healthcare training programs.

At Clinton Community College, where CITEC's Executive Director serves on the advisory board of the Institute for Advanced Manufacturing (IAM), the IAM developed and funded an Advanced Manufacturing Operator training to build the pipeline for the area's manufacturing hub.

The region hosted two large Manufacturing Day events. In Jefferson, Lewis and St. Lawrence Counties, on the west side of the North Country region, more than 500 high school students from 25 different schools visited more than 20 manufacturing facilities. The hosts led tours, did demonstrations, and presented a wide variety of career opportunities in industry to the students. On the east side of the region, the Clinton County's IAM hosted 600 students and 15 manufacturers who offered hands-on demonstrations and activities to show students about manufacturing careers that are available.

**Center for Economic Growth
Capital Region
Don Wiesenforth, Center Director**

Activities and Accomplishments:

With Offshore (OSW) wind being a major emphasis by our Governor, Kathy Hochul, Center for Economic Growth (CEG) engaged with XODUS to complete an Offshore Wind supply chain study as well as regional strategic plan. In addition, CEG developed a “scorecard” scouting worksheet to benchmark each company CEG interview to identify their qualification gaps and assist the manufacturers in being in the mix of the OSW supply chain. Finally, CEG promoted and kicked off an OSW Supply Chain Forum with Orsted, one of the developers in the second week of June.

In an effort to establish a means for regional manufacturers to collaborate, in December the CEG team began planning to launch the Manufacturing Innovation Network as a forum for manufacturers to learn, grow and share. CEG plans to host twelve “Knowledge at Noon” webinars on various topics including effective onboarding, sustainability, AI, and others, as well as in person events on smart manufacturing, how to become an employer of choice, and a “Bots and Brew” social to introduce Cobots to our manufacturers. CEG continues to work closely with MACNY, DOL, and SUNY closely on NYS Apprenticeship and Workforce Development. As of the end of 2022 CEG had fifty-five (55) active and ongoing apprentices. CEG had five successful program completions including: two Industrial Manufacturing Technicians, who are the first of GlobalFoundries apprentices to complete the program; two Computer Support Technicians from Tech II, the first in that trade; and one Electromechanical Technician from Plug (also a first).

Finally, Initial discussions are underway with Rensselaer Polytechnic Institute’s CESMII (Clean Energy Smart Manufacturing Innovation Institute) to undertake a series of smart manufacturing events with Capital Region manufacturers.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	65
Number of jobs created	123
Number of jobs retained	87
Increased/retained sales	\$19,035,400
Cost Savings	\$1,219,035
New investment	\$14,799,700
Non-job Impacts Total	\$35,054,135

Summary of Centers Support of Regional Cluster:

The Capital Region cluster is R&D and Commercialization. As such, our goal is to support the regional R&D assets and entrepreneurs by helping them commercialize their IP, connect them as resources to the manufacturing client base, engage with technology start-ups and align them with the local ecosystem, and identify opportunities for funding.

CEG ran several VentureB events throughout 2022 which enable entrepreneurs to pitch their ideas to potential funders and supporters. In addition, CEG continues to work with Tech Valley Center of Gravity (TVOG) and support the Manufacturing Incubator by providing Entrepreneur in Residence (EIR) support and sitting on team advisory boards including: Prixel Press, Howard Inventions, Uncaged Innovations, Brushi, Kema Kreations, and Any1 Can Craft. Many of these companies have been utilizing the Stratasys 3D printer for products and prototypes.

Other key activities supporting our Cluster include wrapping up Technology and Business Assistance (TABA) report and commercialization plan with Free Form Fibers on their DOD SBIR, partnering with the University of Albany to run the ESD Innovation Hotspot for the Capital Region and held a four series Entrepreneurship Workshop covering areas of business landscape, market size, financial estimates, and non-dilutive funding.

Finally, in an effort to support the growing opportunity for Offshore Wind Supply Chain, CEG helped promote and kick off a Capital Region Supplier Forum in June. It was very well attended (over 200 companies). There will be several more of these types of OSW supply chain events planned by the stakeholders.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$195,000
Federal Funding	\$380,000
Matching Funds	\$185,000
MEP-Dedicated Employees	6.48

Industry-Oriented Workforce Training:

CEG has been heavily focused on helping to address the workforce needs of our Capital Region Manufacturers. CEG is a group sponsor for the New York State Department of Labor Registered Apprenticeship Program which is a formal training program that combines **on-the-job training (OJT)** with formal **classroom education (Related Instruction)** to prepare individuals to enter and grow in new careers. CEG has fifty-five (55) apprentices within the program.

CEG also worked with Global Foundries (GF) to start the first Registered Apprenticeship program in semiconductors in the US. The program has been a successful tool for recruitment and retention and ensures that GF, and the region, have a pool of skilled technicians.

In addition, CEG continues to focus their attention on automation and robotics and building relationships with technology suppliers and integrators. In 2022, CEG partnered with Hudson Valley Community College to promote their open house showcasing their Hardware-as-a-Service equipment to over 50 participants.

**Manufacturing & Technology Enterprise Center
Mid-Hudson Valley Region
David Carter, Executive Director**

Activities and Accomplishments:

In 2022, Manufacturing & Technology Enterprise Center (MTEC) continued to provide critical services to Hudson Valley manufacturers to support their long-term growth and viability. Assistance projects were customized as appropriate to the unique requirements of each manufacturer to improve their productivity, improve quality, reduce costs, improve on time deliveries, and increase market share. Various tools and processes including but not limited to Lean and Six Sigma, ISO Certification and Quality Management, equipment automation, new and enhanced product design, facility design and layout, IT acquisition and implementation, and key technical and management recruiting services were employed by MTEC in the delivery of these projects.

Cybersecurity, supply chain improvement, new product design & prototyping, and sub-contract manufacturing emerged during 2021 with increased significant interest and importance by manufacturers. MTEC has responded to this change by increasing our resources and capabilities in each of these areas.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts:

	01/01/2022 - 12/31/2022
Number of unique companies served	9
Number of jobs created	25
Number of jobs retained	103
Increased/retained sales	\$9,450,000
Cost Savings	\$492,840
New investment	\$2,359,260
Non-job Impacts Total	\$12,302,100

Recognized by both NYS and the Mid-Hudson Regional Economic Development Council (MHREDC) as a significant growth industry within the manufacturing sector, MTEC continued to focus on expanding and enhancing its level of engagement and services to the Food & Beverage Manufacturing industry within the region and state during 2022.

After experiencing a significant reduction in activity during the COVID pandemic in 2020, MTEC activity continued to demonstrate continued improvement during 2022. With a low point of four (4) meetings in 2020, activity improved to fifteen (15) engagements in 2021 followed by an additional twelve (12) meetings in 2022. The total number of meetings held with F&B companies since the program’s inception now stands at 133. Likewise, an increase has been noted in the number of contracts signed by F&B companies from three (3) in 2020 to five (5) in 2021, followed

by an additional six (6) in 2022. The program to date total now stands at 38 with eight additional proposals under consideration by companies. The projects/proposals support food safety, new product commercialization, the continuation of a major facility expansion initially started prior to the COVID-19 crisis, marketing, supply chain, management training, and lean manufacturing.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$290,000
Federal Funding	\$560,000
Matching Funds	\$270,000
MEP-Dedicated Employees	10.50

Industry-Oriented Workforce Training:

In 2022 MTEC offered incumbent worker training programs on a diverse array of subjects including process improvement, human resources, quality, finance, cybersecurity, sexual harassment prevention, and safety/environmental topics. The programs are specifically customized for the unique needs of individual clients and available both on-line and in-person formats.

In parallel, MTEC’s STEM college intern program remains robust with an average of five (5) interns employed year-round in support of manufacturing client projects. Students, both undergraduate and graduate, are afforded the opportunity to apply their newly learned classroom skills in a real-world environment supporting the design, prototyping, and manufacturing of new and enhanced products.

New York City Industrial & Technology Assistance Corp. (ITAC)
New York City Region
Kinda Younes, Executive Director

Activities and Accomplishments:

New York City Industrial & Technology Assistance Corp (ITAC) conducted the Assess and Grow Program with the Brooklyn Navy Yard Development Corp. ITAC partnered with an experienced industrial engineer and provided operations consulting to five manufacturers as part of the program. The assistance focused on process optimization, productivity improvement, and operational cost reduction. ITAC conducted factory walk-through tours with each participant and developed a set of recommendations. ITAC conducted follow-up one-on-one meetings with each company to go through the report and help them outline next steps. All five manufacturers received subsidized consulting and the feedback has been excellent. The Navy Yard successfully helped its tenants in an area that matters to them. ITAC is looking into potentially replicating this model with other industrial partners.

ITAC's Business Best Practices – Rapid Intervention Program, is aimed at strengthening manufacturers in NYC's Garment District and helping them to develop strategies to address their biggest challenges. Over the last year, over thirty firms in NYC's Garment District participated. While every participant received much-needed marketing assistance, ITAC was also able to connect them to an expert in the area where they most needed guidance. Marketing projects accounted for much of this work, and included strategy plans, content efforts, e-commerce recommendations, and email marketing. This flexibility in services allowed us to make the deepest impact, and the feedback from clients has been very positive. Year 3 of the program will kick off in January 2023.

Made available thanks to funding from New York State Empire State Development, ITAC's Digital Marketing Boost for Small Businesses Program was created to provide targeted marketing assistance to New York City manufacturers. The ITAC team provided free, direct, one-on-one coaching/consulting to NYC manufacturers to help them identify and troubleshoot their marketing challenges and boost their revenues. In total, eighteen companies applied for the program and ten were selected to participate. The program focused on helping firms increase revenue with custom marketing strategies. Opportunities were identified to help small businesses define and achieve their marketing goals. At the end of the program, each participant received a custom plan tailored to their unique business needs. Participants hailed from Brooklyn and Queens and represented diverse industries including food & beverage, apparel, medical supplies, beauty products, metal, and jewelry. Each was thrilled with their strategy and grateful for the experience. Discussing their growth plans and marketing efforts with an outside team not only helped these business owners gain new perspective, but it also provided inspiration, motivation, and overall excitement about their future.

Many clients are taking advantage of grant programs provided by ITAC partners. For example, several of our clients are taking advantage of National Grid's Manufacturing Productivity Program which provides subsidies for work related to growth and/or leaning out operations. ITAC has helped fourteen companies receive funding. The subsidies provided by National Grid are essential

to many NYC manufacturers and have already generated over \$49M in economic impacts and 146 new/retained jobs for ITAC clients.

ITAC continues to work with New York Embroidery Studio on their expansion to continue supplying the Federal government with Personal Protective Equipment. This expansion is expected to create hundreds of jobs over the coming years. In 2022, clients reported impacts of over \$34.8M in new sales, \$16.9M in retained sales, \$30.2M in new investments, \$4.4M in cost savings, and 1,236 new and retained jobs.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	60
Number of jobs created	161
Number of jobs retained	276
Increased/retained sales	\$26,910,257
Cost Savings	\$5,133,383
New investment	\$28,188,433
Non-job Impacts Total	\$60,232,073

Summary of Centers Support of Regional Cluster:

To support the Smart Cities cluster as it relates to Manufacturing and Technology, ITAC provides early-stage companies with technical assistance and access to NYC and NYS resources. ITAC also assists small manufacturing and technology companies in scaling up through training, coaching, and consulting on manufacturing basics. The ultimate objective is to accelerate the commercialization of new products, thereby creating revenue and jobs for NYC and NYS.

As an example of ITAC’s work with small firms: Aurora Lampworks is a manufacturer focused on restoring historic lighting fixtures, converting international fixtures for use in the U.S., and fabricating contemporary fixtures. ITAC is assisting with 5S/Lean training because the company needs to utilize space and increase capacity by eliminating waste in the workflow. Aurora is also planning to offer English as a Second Language training to their staff and is looking at upgrading or purchasing new software to assist in increasing capacity.

ITAC partners with workforce organizations to increase the pipeline of available candidates for existing and emerging jobs and continue helping clients with their workforce needs. ITAC links small and medium-sized businesses with NYC and NYS suppliers and helps with industry expansion and cultivation. A member of the REDC, ITAC Executive Director Kinda Younes participates in all meetings and initiatives and serves on the Citywide Career and Technical Education Advisory Council. Kinda also co-chairs the Downtown Revitalization Initiative as well as New York Forward as part of our REDC commitment.

Center Funding:

01/01/2022 - 12/31/2022	
State Funding	\$315,000
Federal Funding	\$635,000
Matching Funds	\$320,000
MEP-Dedicated Employees	8.00

Industry-Oriented Workforce Training:

ITAC assists small manufacturing and technology companies in scaling up through training, coaching, and consulting on manufacturing basics. The ultimate objective is to accelerate commercialization of new products, thereby creating revenue and jobs for NYC and NYS. The growth in sophistication of technologies in the maker market and the overall manufacturing process continues to trickle down to smaller companies making them more agile and competitive. This training leads to both job creation and retention.

ITAC continues to work closely with the Workforce Development Institute (WDI) and has introduced multiple companies to WDI. ITAC also meets regularly with other key players (SBS/ApprenticeNYC, the Consortium for Worker Education, Pratt Made in NYC, Schools that Can, etc.) to discuss workforce initiatives including internships and apprenticeships. Given its solid knowledge of local manufacturers, ITAC is always asked to provide input into relevant programs.

On October 7, 2022, ITAC hosted its Manufacturing Day 2022 event “Founder Stories - Scaling Food and Fashion Businesses in NYC” at the Brooklyn Navy Yard. The event was a big success. Both the Navy Yard and the Workforce Development Institute were sponsors. ITAC had several very interesting founders as speakers including DS and Durga (perfume manufacturer), the Black Cake Company (manufacturer of rum cakes), and Jalapa Jar (a salsa manufacturer). ITAC organized manufacturing tours and invited high school students from all over New York City. Speakers discussed how they got started and built their businesses. This was empowering for the 50+ students in attendance. At day’s end, students were brainstorming for their future businesses and jobs, and had a deeper understanding of what it takes to create a business. Many inquired about internships and opportunities to learn more from local manufacturers. The event also provided us with an opportunity to introduce prospects and local manufacturers to our network and to strengthen the entire community.

**Manufacturing and Technology Resource Consortium
Long Island Region
Amy Erickson, Center Director**

Activities and Accomplishments:

In 2022, the Manufacturing and Technology Resource Consortium (MTRC) undertook several strategic initiatives to assist the manufacturing sector on Long Island. One of the most significant activities was the engagement of P&L Technical Management Solutions Corp. for leading a client discovery project that would be used to shape the strategic direction of the MTRC. This effort included the distribution of a comprehensive survey developed by research consultant Big Red M, which was delivered through our regional industry partner organizations. The survey results, gathered in December 2022 and through early January 2023, provided critical strategic insights into the needs and opportunities within the Long Island manufacturing community. These insights ultimately led to the creation of a new programmatic strategic model for the MTRC focusing on 1:1 engagement with Long Island manufacturers looking to drive impactful projects leading to stronger economic growth and forward-looking success for the manufacturing community.

This reporting period was also marked by MTRC's decisive response to an incident at the University's Calverton-based Food Business Incubator, Long Island's largest shared commercial kitchen. This incident had significantly impacted Long Island's food and beverage manufacturers due to the cessation of operations of the facility and ultimately, the displacement of numerous local producers. MTRC swiftly executed two major projects to provide emergency assistance to over fifty (50) affected companies.

The emergency response consisted of two actions. First, MTRC liaised with municipal entities across local, state, and federal levels to find a suitable temporary food production facility that was equipped with essential food production and storage capabilities the impacted companies from the Calverton incident to resume their manufacturing and production operations. Second, MTRC engaged with the Long Island Food Council (LIFC) to give critical advice and guidance in food production, food safety, and management to manufacturers navigating this very unfortunate event.

MTRC is happy to report that the interventions implemented under these emergency assistance programs had a substantial and positive impact, as the impacted Long Island food manufacturers were able to sustain their manufacturing processes, generate revenue, and maintain their customer base throughout the duration of the emergency. Their resilience, supported by MTRC's actions, underscores the importance of rapid response mechanisms and MTRC's role as a pillar of stability and resourcefulness within the manufacturing community.

In November 2022, the MTRC successfully executed a comprehensive three-day Global Supply Chain Series. This webinar series was designed to empower supply chain professionals with insights into pressing issues and forward-looking strategies in the realm of supply chain management. The overarching aim of the program was to present innovative supply chain models and global

architectures that would create thoughtful dialogue and learning, inspiring among the series participants.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	12
Number of jobs created	113
Number of jobs retained	143
Increased/retained sales	\$13,662,401
Cost Savings	\$1,192,250
New investment	\$7,758,121
Non-job Impacts Total	\$22,612,772

Summary of Centers Support of Regional Cluster:

During the second quarter of 2022, the MTRC undertook significant outreach initiatives to assist the capabilities of the regional manufacturing cluster, particularly within the biotechnology sector. A key development in this initiative was the engagement with the Center for Advanced Technology in Biotechnology (Center for Biotech). The objective was to extend the cutting-edge prototyping services offered by MTRC's Rapid Prototyping User Facility (RPUF) to the Center for Biotech's local manufacturing affiliates, facilitating the advancement of their technological innovations and contributing to the manufacturing potential of MTRC’s cluster.

In parallel, MTRC provided a comprehensive tour and presentation of the RPUF to the University's Intellectual Property Partners, the institution's technology transfer office. This initiative was aimed at starting a working relationship to foster the development of prototypes that could serve as mechanisms for growth among local startups and Long Island manufacturing businesses.

Throughout our reporting period, the RPUF was a hub of activity, being used by local businesses in critical product development projects. These product development projects included specialized services such as reverse engineering, prototype scanning, and computer-aided design (CAD) drawing. Four companies utilized the RPUF's resources for their product development endeavors. A standout example of these collaborative projects is the work conducted with Snake Trap LLC, which is now nearing completion of a prototype for an innovative, larger-than-life mobile training device designed for self-defense instruction.

The efforts involving the RPUF showcased MTRC's dedication to enhancing our cluster's manufacturing capabilities, supporting the biotechnology industry, and creating an environment of innovation and technology that aligns with our objectives of economic growth and outsizing our impact on the Long Island industrial base.

Center Funding:

01/01/2021 - 12/31/2021	
State Funding	\$315,000
Federal Funding	\$635,000
Matching Funds	\$320,000
MEP-Dedicated Employees	2.0

Industry-Oriented Workforce Training:

MTRC's commitment to workforce development was showcased by many activities that occurred throughout the year. The Summer Youth Employment Program was made possible by working with Theresa Sanders, the CEO of the Urban League of Long Island and local Long Island business. Participants of this program were underprivileged students who learned introductory coding, engineering design, hands-on electronics, and microcontroller programming through project-based learning. The goal of this workforce program was to utilize these skills to advance their career or seek new employment in the STEM-based sector. STEM is an acronym for science, technology, engineering, and math. Outside program partners included Mechanismic Inc., The Center for Corporate Education, Suffolk County Labor Department, and the Workforce Development Institute.

MTRC partnered once again with the Urban League of Long Island on another program to utilize a \$10,000 MTRC workforce-initiative grant awarded from America Works (NIST MEP workforce initiative) to develop a two-week workplace training program for young adults between the ages of 16-21. The training was hosted at Stony Brook University's Center of Excellence in Wireless and Information Technology (CEWIT). The workplace training group was vetted and organized by the Urban League of Long Island and support was given by the Workforce Development Institute to transport the students from the Urban League headquarters in Central Islip to the CEWIT building in Stony Brook.

**FuzeHub
Statewide
Elena Garuc, Executive Director**

Activities and Accomplishments:

FuzeHub continued to serve manufacturers throughout New York State in 2022.

Marketing of NYSTAR-funded NYS Innovation centers was strong. Due to this effort, in collaboration with The Martin Group (a New York State communications firm), media mentions and placements have increased significantly and the NYSTAR Network now has a stronger platform for branding and outreach. FuzeHub received a total of 162 media hits for organizations and NYSTAR network.

FuzeHub held over 14 events attracting close to 3,000 registrants.

Key Programs:

NY MEP Cybersecurity Fund

The purpose of this initiative was to raise awareness of NIST SP 800-171 while providing grants up to \$5,000 per eligible company for small-to-medium manufacturers who wanted to identify and address their cybersecurity deficiencies as measured by NIST SP 800-171. Eligible uses of funds included cybersecurity assessments and projects for implementing cybersecurity measures.

Manufacturing Forum: Clean Energy and Sustainability

FuzeHub organized and led a Manufacturing Forum, Clean Energy and Sustainability on April 20th. This in-person Manufacturing Forum provided valuable networking opportunities to small-to-medium sized manufacturers.

Clean Energy and Sustainability featured manufacturers from the lowest tier of the cleantech supply chain up to industry leaders such as Plug Power, National Grid, and Community Offshore Wind. At the event, companies that supply clean energy, and companies seeking to develop cleantech or renewable products gained valuable insights from NYSTAR funded resources and other manufacturer exhibitors.

The event also provided attendees with opportunities to meet with organizations that promote economic development, sustainable manufacturing, pollution prevention, advanced manufacturing, and automation. Through a series of one-on-one meetings, attendees were able to learn about potential solutions to challenges in areas such as industrial automation, workforce development, product design, materials research, manufacturing scale-up, and carbon reduction. FuzeHub partnered with the Center for Economic Growth and the Center for Future Energy Systems at Rensselaer Polytechnic Institute to bring together 106 attendees. Georges Sassine, VP of Large Scale Renewables at NYSERDA; Christopher Johnson, Product Manager at Plug Power; and Jian Sun, Director of the Center for Future Energy Systems were the keynote speakers.

Automation and Beyond: Practical Solutions for Manufacturers

FuzeHub, in partnership with Buffalo Manufacturing Works (BMW), the Alliance for Manufacturing and Technology (AMT), and Insyte Consulting, organized Automation and Beyond: Practical Solutions for Manufacturers. On February 23rd, FuzeHub hosted the event virtually with a statewide reach. The event took place on Remo, a virtual event platform, and 100 attendees navigated a digital venue with tables, chairs, a stage, and multiple floors. Manufacturers learned about automation and supporting I4.0 technologies like AR, VR, sensors, and software, with a focus on how these technologies are delivering results for small and medium New York State manufacturing companies.

Vitality in the Valley

On June 5th and 6th FuzeHub, in partnership with the Advanced Institute for Manufacturing, Herkimer County IDA, and the Institute for Rural Vitality at SUNY Cobleskill, hosted Vitality in the Valley at Herkimer County Community College. The event provided 110 attendees from all 10 of New York's regions with networking and business development opportunities and valuable insights from NYSTAR funded resources and manufacturers. The event featured a manufacturing track focusing on funding opportunities, cybersecurity, and operational improvements presented by representatives from FuzeHub, the Advanced Institute for Manufacturing, and Herkimer County IDA. There was also an agricultural solutions track presented by the Institute for Rural Vitality, NYSEERDA, and National Grid that provided attendees with information on new technologies and strategies to lower energy costs.

Palisades Institute Cybersecurity Forum

FuzeHub partnered with the Advanced Institute for Manufacturing and Dominican University for the Palisades Institute Cybersecurity Forum on May 3rd. The virtual event was hosted on Zoom and provided small and medium manufacturers with information on cybersecurity measures that can be taken to protect trade secrets, intellectual property, and financial information.

InFUZEd Marketing

This was the first full year of FuzeHub officially rolling out marketing services. The goal was to help manufacturers build brand awareness and drive sales. This included website redesign, marketing strategy, event management, content, and SEO. FuzeHub performed 10 marketing projects in 2022 and had four of those extend into a second phase and/or a monthly marketing retainer to perform SEO/content/website updates.

InFUZEd Events

Your Brand on Display: Tradeshow, Events, Workspaces, and More

Presenting your brand with In-person conferences and expos, creating eye-catching exhibit and display graphics to put your business or organization in the best light possible.

Set Your Organization Apart with Customer Advocacy:

Customer testimonials and case studies are a critical part of a marketing strategy. But most manufacturers have a tough time making this type of customer advocacy part of their ongoing marketing efforts. This session presented practical tips and advice on how to start an advocacy program.

Using Data to Create a Plan of Action:

Siena College Research Institute shared a customer survey best practice using both quantitative and qualitative data in regard to developing several types of strategies to leverage the findings into actionable plans.

New York State Keeps the World Moving

On September 28th FuzeHub partnered with the Alliance for Manufacturing and Technology, NAmTrans, and ESD NYSTAR for a one-day, in-person, manufacturing forum-style event for New York State's transportation equipment and aerospace industry. This in-person Manufacturing Forum provided valuable networking opportunities to small-to-medium sized manufacturers.

New York State Keeps the World Moving was FuzeHub's first Transportation Equipment and Supply Chain Forum since 2016. The event featured manufacturers from the lowest tier of the transportation supply chain up to industry leaders such as CAF USA Inc., Norsk Titanium, and Oriskany Manufacturing Technology. At the event, transportation equipment OEMs and SMEs gained valuable insights from NYSTAR funded resources and Tier 1 and Tier 2 suppliers.

The Power of R&D Partnerships: Advanced Manufacturing

FuzeHub, in partnership with NYSTAR, the Center for Advanced Ceramic Technology at Alfred University, the Center for Advanced Materials Processing at Clarkson University, the Center of Excellence in Materials Informatics at the University at Buffalo, and the Cornell Center for Materials Research, organized The Power of R&D Partnerships: Advanced Manufacturing. On July 27th, FuzeHub hosted the event virtually with a statewide reach. Manufacturers learned how New York State Centers of Excellence and Centers for Advanced Technology can help companies develop new products and processes. Representatives from each partner organization explained how they are involved with advanced materials innovations related to ceramics, chemicals, glass, metals, plastics, and more, enabling high-performance products in sectors ranging from electronics and aerospace to medical equipment and consumer products.

New York State Innovation Summit

On October 25th and 26th FuzeHub hosted the New York State Innovation Summit in Buffalo. The event provided 550 attendees from all 10 of New York's regions with networking and business

development opportunities and valuable insights from NYSTAR funded resources and manufacturers.

The event featured nearly 100 exhibitors showcasing their innovative projects, which provided the Solutions Program team with an opportunity to connect manufacturers with resources immediately. Exhibitors and attendees representing manufacturers were made aware of relevant NYSTAR resources and introduced to staff from the resource organization.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2022 - 12/31/2022
Number of unique companies served	79
Number of jobs created	29
Number of jobs retained	57
Increased/retained sales	\$5,159,425
Cost Savings	\$1,767,086
New investment	\$5,809,755
Non-job Impacts Total	\$12,736,266

Center Funding

01/01/2022 - 12/31/2022	
State Funding	\$1,298,000
Federal Funding	\$1,135,194
Matching Funds	0
MEP-Dedicated Employees	10.0

NYSTAR's New York Manufacturing Extension Report (2023)

NY MEP Overall

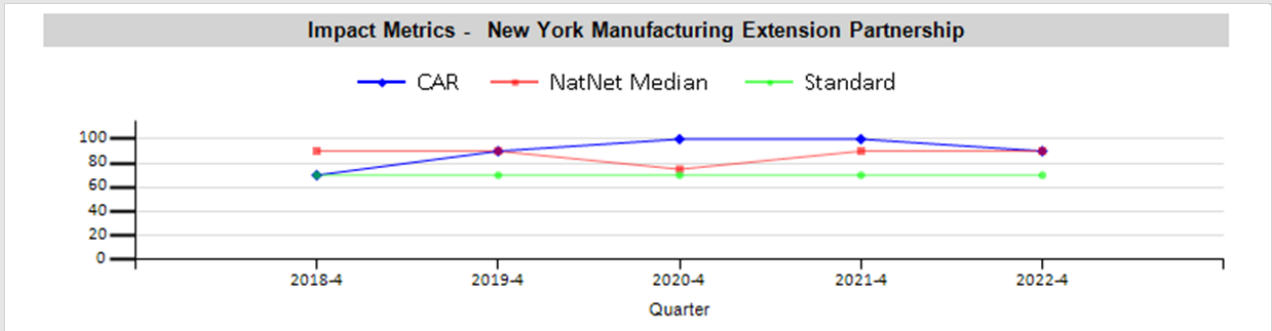
The charts below comes from the NIST MEP reporting system, and reflects information and impacts generated by all 11 centers during calendar year 2022.

New York Manufacturing Extension Partnership - 176

2022-4 - IMPACT Metrics as of Thursday, November 30, 2023

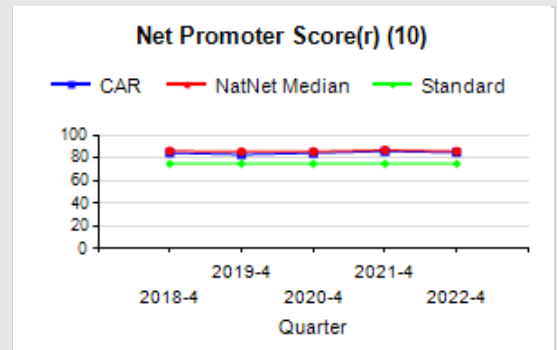
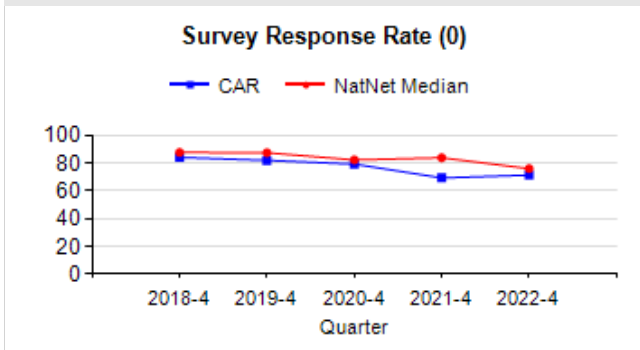
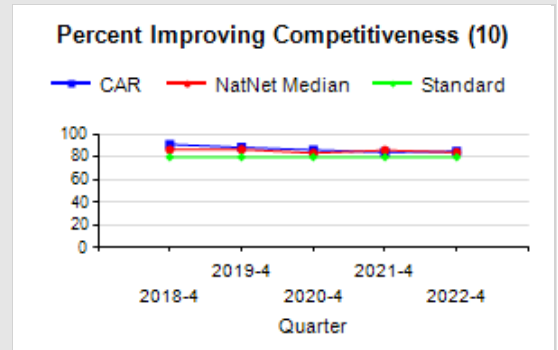
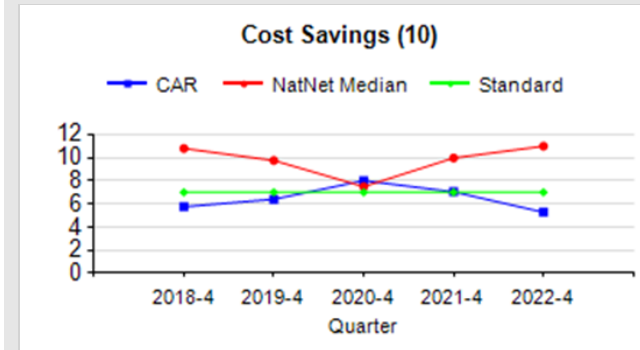
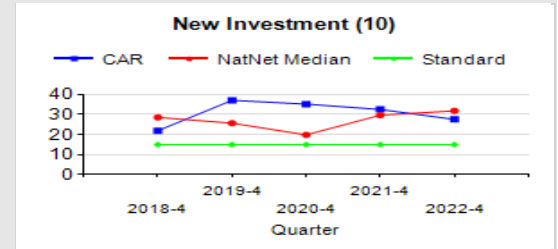
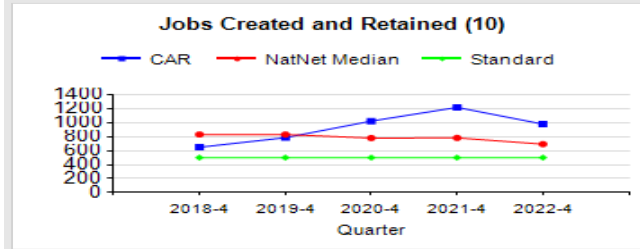
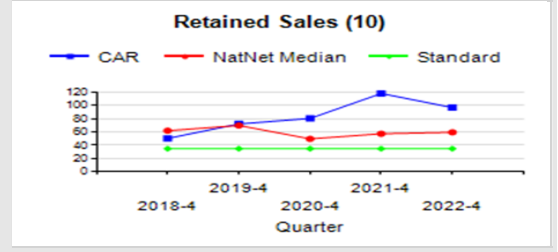
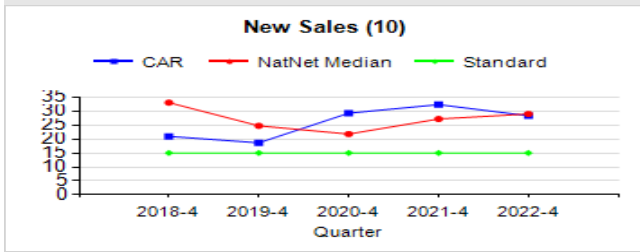
CAR Operations Performance Management IMPACT Metrics						
CAR Current Quarter Performance				90		
Federal Funding - \$6,877,960.00 Total Cash Resources - \$13,477,620.00 (Four Quarter Rolling Average)						
Impact Metrics						
Metric	CAR Reported Impact	Normalized CAR Performance	Performance Standard	CAR Metric Points	NatNet Median Performance	From Threshold
Impact data based on MEP Client Survey responses						
New Sales (10)	\$194.8 M	28.3	\$15	10	\$29.0	189%
Retained Sales (10)	\$665.7 M	96.8	\$35	10	\$59.6	277%
Jobs Created and Retained (10)	6,720	977.0	500	10	691.7	195%
New Investment (10)	\$189.7 M	27.6	15	10	\$31.8	184%
Cost Savings (10)	\$36.3 M	5.3	7	0	\$11.0	75%
Percent Improving Competitiveness (10)	554.0 / 652.0	85.0%	80%	10	84.2%	5 PP
Net Promoter Score(r) (10)	87.8 - 2.9	84.9	75	10	86	9.9 PP
Impact data based on Client/Project Submissions						
Mfg.Clients / \$M Fed (15)	551	80.0	73	15	77.2	110%
New Mfg.Clients / \$M Fed (15)	273	40.0	29	15	32.3	137%
Supplemental Data						
Survey Response Rate (0)	652.0 / 913.0	71.4%	70%	N/A	76.1%	1.4 PP

- Net Promoter, Net Promoter System, Net Promoter Score, NPS and the NPS-related emoticons are registered trademarks of Bain & Company, Inc., Fred Reichheld and Satmetrix Systems, Inc.
- PP - Percentage Points

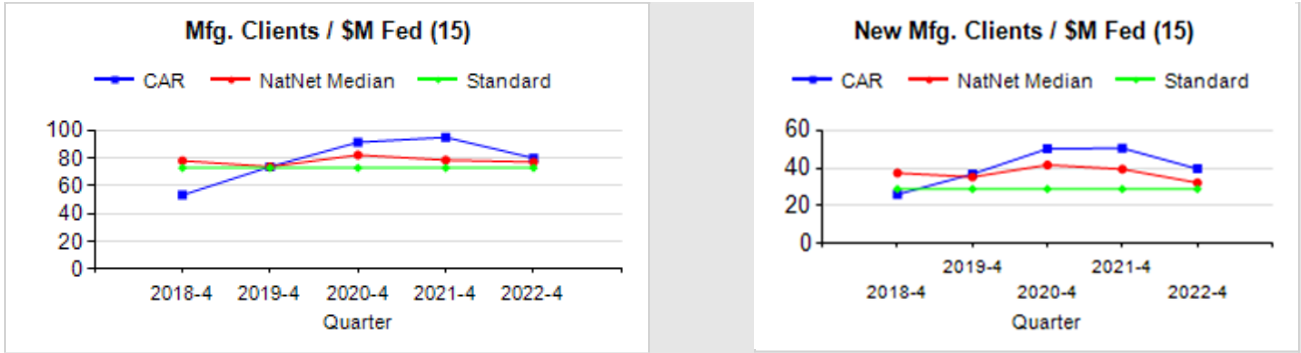


*CAR is "Competitive Award Recipient," which in the context of this report is the NY MEP

NYSTAR's New York Manufacturing Extension Report (2023)



NYSTAR's New York Manufacturing Extension Report (2023)



APPENDIX

NIST MEP Score Card – NIST MEP creates Scorecards for each state center. All calculations are based on the sum (or aggregate) of the impacts reported by the center’s clients over a rolling four (4) quarter period. Each category is listed in the table below.

NIST MEP Operations Performance Management Score		
For each metric category, a score of 10 is given for meeting or exceeding the metric threshold. If a metric is below the threshold, a score of zero is given. Scores are based on a rolling four (4) quarter average of survey results.		
Metric	Threshold	
New Sales	\$15	Per million federal funding
Retained Sales	\$35	Per million federal funding
Jobs Created and Retained	500	Per million federal funding
New Investment	\$15	Per million federal funding
Cost Savings	\$7	Per million federal funding
Percent Improving Competitiveness	80%	% of companies that realized a benefit
Survey Response Rate	70%	Percentage % of companies submitted for survey and complete the survey
Net Promoter Score	75	Companies rank from 1 to 10 the likelihood of recommending the center to others
Manufacturing Clients / \$M Fed	65.0	Per million federal funding
New Manufacturing Clients / \$M Fed	28.0	Per million federal funding