



**Division of
Science, Technology
& Innovation**

A Division of Empire State Development

New York Manufacturing Extension Partnership 2021 Report

NYSTAR's New York Manufacturing Extension Report (2021)

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PROGRAM OVERVIEW AND PURPOSE

The New York Manufacturing Extension Partnership (NY MEP) is a network of organizations that provide growth and innovation services to small and mid-sized manufacturers in every corner of the state to help them create and retain jobs, increase profits, and save time and money.

NY MEP is part of the National Institute of Standards and Technology's (NIST) Hollings Manufacturing Extension Partnership and is supported through a combination of federal and state funding. NY MEP is awarded over \$6 million in federal funds per year. New York State adds approximately \$3.7 million in state funding. This funding is awarded to eleven (11) sub-recipients through a competitive process.

There is one (1) sub-recipient organization in each of the ten (10) economic development region along with one (1) statewide center, for a total of eleven (11) centers. Each 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.

The information provided in this report is a requirement of Public Authorities Law Article 10A Section 3102A related to the Industrial Technology Extension Services and Section 3102D related to the Technology Development Organizations.

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

- 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.

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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.

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

Activities and Accomplishments:

Insyte Consulting worked closely with partners to address the issues created by the COVID-19 pandemic. These activities included providing real-time information to manufacturers via a special HELP line manned eight (8) hours a day by Insyte personnel to provide COVID-19 information, forms, resources and updates in conjunction with the Buffalo Niagara Manufacturing Alliance (BNMA), Buffalo Manufacturing Works (BMW), Northland Workforce Training Center (NWTC) and others. Throughout 2020, Insyte continued to operate and deliver services to WNY manufacturers.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	38
Number of jobs created	235
Number of jobs retained	1253
Increased/retained sales	\$246,786,539
Cost Savings	\$12,905,950
New investment	\$41,803,175
Non-job Impacts Total	\$301,495,664

Summary of Centers Support of Regional Cluster:

Insyte Consulting works closely with the WNY Regional Economic Development Council (REDC) to support the regional strategy. As part of this work, Insyte has focused on Industrial Machinery and Materials clusters in WNY providing improvement services and support in conjunction with BMW, BNMA and others.

Throughout 2020, Insyte worked closely with BNMA to provide COVID-19 information and guidance to WNY manufacturers as they responded to the pandemic. Insyte continued our partnership with BMW to create and deliver the Shift Program, which assists manufactures address issues, to introduce WNY manufacturers to technology and process improvements to improve their competitiveness.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$290,000
Federal Funding	\$597,590
Matching Funds	\$1,616,134
MEP-Dedicated Employees	12.30

Industry-Oriented Workforce Training:

Insyte Consulting is co-located and works closely with NWTC, a Buffalo Billion initiative which trains non-traditional advanced manufacturing workers utilizing unique recruitment tools and wraparound services. NWTC has graduated over 500 students, predominantly minority (52%), from the City of Buffalo (52.5%). NWTC has an 81% retention rate from semester to semester and has placed 81% of graduates resulting in over \$2.5 million in wages and impact. NWTC represents an innovative best practice in workforce for advanced manufacturing.

NextCorps, Inc.
Finger Lakes Region
James S. Senall

Activities and Accomplishments:

NextCorps project activity was very strong in 2020, despite the impact of COVID-19, with 150 substantive projects completed during the year and 151 projects ongoing. 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 2020, NextCorps submitted 69 RG&E/NYSEG Manufacturing Accelerator Program (MAP) applications valued at over \$3.2 million, requesting reimbursement of over 50% of project costs. This included 15 applications from March to May during the height of COVID-19 in the State. The MAP is a significant contributor to MEP project activity in this region. NextCorps executed NYSERDA's M-Corps program (Hardware Scale-up) to assist cleantech firms transition from prototype products to full-scale production. Eight companies were selected into Cohort 2 that launched in November 2019. These companies executed projects ranging from design reviews to building prototypes. Several program participants launched products or services in response to the COVID-19 pandemic. In addition, NextCorps worked with our downstate M-Corps partner, SecondMuse, to support New York City's response to COVID-19 providing links to upstate manufacturers producing personal protective equipment.

NextCorps was awarded the NYSERDA contract for the cleantech accelerator program that is a follow on to the NEXUS-NY proof of concept center. The program, now branded as Venture for ClimateTech, is run in partnership with SecondMuse. In late 2020, after the conclusion of Cohort 2, the Hardware Scaleup program rebranded under the "For ClimateTech" umbrella, to be known as Scale For ClimateTech. A partnership with SecondMuse was formalized as a joint program with cohorts in upstate NY and downstate NY. Some programming is conducted jointly including manufacturing tours and education workshops. The Manufacturing Readiness Program, part of the NIST MEP Competitive Awards Program (CAP), was launched with a kickoff meeting in October. Objectives are to develop an online platform to educate early stage companies on key issues in scaling up manufacturing, and to bridge gaps between hardware technology inventors/entrepreneurs and contract manufacturers to increase the rate of new product commercialization, job creation and economic growth. The first pilot program is to be conducted in the Finger Lakes region.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	96
Number of jobs created	213
Number of jobs retained	769
Increased/retained sales	\$81,882,877
Cost Savings	\$3,738,701
New investment	\$51,450,798
Non-job Impacts Total	\$137,072,376

Summary of Centers Support of Regional Cluster:

A total of 69 substantive projects were completed with companies within the Optics, Photonics, and Imaging (OPI) cluster in 2020 with 18 projects ongoing at the end of the year. Luminate held its Finals 2020 competition in September at the Optical Society's international Frontiers in Optics + Laser Science APS/DLS conference. This event marked the half-way point of the five-year, \$25 million Luminate accelerator program. Since its inception, it has invested \$7 million in 30 startups. The companies in the portfolio now share a net worth of \$160 million. In addition to providing an estimated 1.5 to 2 times return on investment, 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. SunDensity received the "Company of the Year" award at Finals 2020 and will receive a \$1 million investment. SunDensity, which originated from MIT (Massachusetts Institute of Technology), will be locating its operations and manufacturing in Rochester.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$290,000
Federal Funding	\$597,590
Matching Funds	\$2,411,551
MEP-Dedicated Employees	3.43

Industry-Oriented Workforce Training:

Training was the primary content of 10 completed projects and another 12 projects had a training component. Training broadly covered entry, mid and leadership levels of employees. Continued efforts in mechatronics focused on enhancing the 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.

CARES Work:

As part of the NYMEP Emergency Assistance - Personal Protection Equipment (PPE) Assistance, NextCorps contracted with New York City Industrial & Technology Assistance Corporation (ITAC) and SecondMuse to develop an active supplier registry, and with New York State Pollution

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Prevention Institute (NYSP2I) at the Rochester Institute of Technology's Golisano Institute for Sustainability (RIT) for research and evaluation of PPE and methods of cleaning and sanitizing. A partnership with ThomasNet was developed with a webinar to launch the effort. Projects are to be done in 2021 to improve PPE sustainability and supply.

**Alliance for Manufacturing and Technology
Southern Tier Region
Carol Miller**

Activities and Accomplishments:

Alliance for Manufacturing and Technology’s (AM&T) strategic planning effort continues to move forward in a direction that better supports the manufacturing community needs and stakeholder priorities. In 2020, AM&T created an introductory “Lean Safety” training program for potential client engagements, authored a Lean Six Sigma Green Belt training program with eight modules and during the year conducted the training sessions focused on improving manufacturing and administrative processes. AM&T conducted various Lean Six Sigma process improvement projects and training sessions including: Provided 5S: Workplace Organization training for 14 employees at one client; conducted two (2) “Lean Thinking” fishbone training exercises focused on getting root causes of time delays; and completed a project focusing on lead time reduction and cost savings for two (2) different product lines. The action plans were formulated to meet and exceed increased sales targets of \$150,000/year. AM&T provided Six Sigma’s MSA (Measurement System Analysis) training and project support to verify a company’s measurement systems were working correctly, launched a changeover improvement project focused on reducing changeover time while simultaneously decreasing the number of defective sanitation washes for a company in the food industry, launched a warehouse improvement project focused on improving material receipt time, line supply time, and order picking time. Other projects completed in 2020 were a product design project that was part of a multi-year technology investment for an AM&T client. AM&T completed a Design for Manufacturability Project which will significantly reduce the company’s costs and respond to planned increases in market demand using automated manufacturing techniques and completed a project to assist a Start-up company to increase its sales. The project included part mining to discover and connect with the projects, people, and products that drive their construction industry. It also included customer engagement to make direct contact and conduct sales process, and to establish reporting requirements to fuel their growth.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	10
Number of jobs created	87
Number of jobs retained	510
Increased/retained sales	\$94,649,000
Cost Savings	\$3,392,000
New investment	\$7,072,000
Non-job Impacts Total	\$105,113,000

Summary of Centers Support of Regional Cluster:

Transportation and Advanced Manufacturing Products, Components and Systems Control Cluster and Agriculture are key Regional Economic Development Council (REDC) Clusters in the Southern Tier. AM&T continues a focus on its support of a priority cluster through support to manufacturers supply chain participants. AM&T's Executive Director is part of the REDC Advanced Manufacturing and Workforce Development Workgroups in the Southern Tier. AM&T completed tours and meetings with four innovation audit pilot companies to create scopes of work. AM&T presented proposals for conducting an Innovation Audit with three companies interested in moving forward. The pilot is part of AM&T's Industry 4.0 initiative, which will help build out technology resources in the region and assist Southern Tier Manufacturers. AM&T personnel attended various regional meetings, including the REDC Executive Committee, Advanced Manufacturing Workgroup session, and Workforce Development sessions. AM&T leveraged partners in a wide variety of assistance to manufacturers, including grants and assistance from regional universities, NYMEPs, Industrial Development Agencies, Pollution Prevention Institute, ESD, Workforce Development Institute, Small Business Assistance Centers, and New York State Energy Research and Development Authority. As part of NYSERDA's 76West Program, AM&T is helping participants with Request for Quotes and building their manufacturing supply chains in the Southern Tier. AM&T's Executive Director is part of the 76West Regional Showcase planning committee and was a judge for the 76West Clean Energy Startup Competition to support the Southern Tier's clean energy ecosystem.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$195,000
Federal Funding	\$405,428
Matching Funds	\$703,042
MEP-Dedicated Employees	4.50

Industry-Oriented Workforce Training:

AM&T had joint meetings with local and statewide workforce development organizations throughout the year. AM&T assisted a couple of companies with their proposals seeking assistance from the Workforce Development Institute. AM&T participated in the Broome County SPARK event in January 2020. This event served as a career exploration experience for eighth-grade students in the region. The students learned about careers in our area and the educational and training pathways needed for success.

**Central New York Technology Development Organization
Central New York Region
James D'Agostino**

Activities and Accomplishments:

Central New York Technology Development Organization (TDO) provided two ISO trainings for companies in the aerospace & defense sector and the electronics and testing sector. These services will allow the manufacturer to achieve formal certification, which will eventually allow them to expand their business and grow into new markets. TDO also provided three Lean Six Sigma trainings for manufacturers in various sectors. TDO facilitated leadership development training and multiple Kaizen events at a local plastic injection molding manufacturer. The training and Kaizen events allowed the manufacturing team to develop critical leadership skills and implement numerous impactful productivity improvements.

Additionally, TDO facilitated three cybersecurity training and gap assessments for manufacturers to improve internal controls and ensure compliance to NIST 800-171 standards. TDO also completed numerous other trainings and workshops around lean manufacturing, Kata coaching, workforce development, onsite services and job development to an array of manufacturers in their region.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	49
Number of jobs created	36
Number of jobs retained	363
Increased/retained sales	\$14,737,480
Cost Savings	\$2,619,344
New investment	\$3,422,650
Non-job Impacts Total	\$20,779,474

Summary of Centers Support of Regional Cluster:

TDO continued to use Kata to strengthen its position regarding the cluster focus Data to Decisions Research, which includes using data to make and guide strategic business decisions. This work included learning and developing assessment tools as possible entry approaches for assisting clients and beginning engagements. TDO provided development and implementation support with a specific focus on utilizing data to make decisions to a personal protection equipment (PPE) manufacturer. TDO assisted a PPE manufacturer with a Kanban data analysis to allow the development of an inventory and manufacturing system for their production operation.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$195,000
Federal Funding	\$405,428
Matching Funds	\$530,784
MEP-Dedicated Employees	6

Industry-Oriented Workforce Training:

TDO provided workforce training and mentoring to multiple maintenance apprentices at several manufacturers. Critical workforce skills that were developed included maintenance troubleshooting and programming. TDO provided Job Relations training to a PPE manufacturer. This training enabled better front-line supervisory skills and an improved overall workplace culture. TDO facilitated leadership development training at a local plastic injection molding manufacturer. The training allowed the manufacturing team to develop critical industry-oriented workforce leadership.

CARES Work:

TDO participated in multiple webinars in support of the re-shoring and rebuilding supply chains component of the CARES Act. These webinars included Harry Moser (Reshoring Initiative) and Rosemary Coates (Reshoring Institute), who are nationally renowned resources for re-shoring and domestic supply chain efforts. Both Moser and Coates were introduced to the NY MEP team by TDO through their investigatory work. TDO was able to achieve numerous survey completions from manufacturers in the CNY region for re-shoring and rebuilding supply chains. This data was used to align and strengthen future re-shoring and supply chain efforts.

**Mohawk Valley Community College Advanced Institute for Manufacturing
Mohawk Valley Region**

Cory Albrecht

Activities and Accomplishments:

In the wake of the COVID-19 Pandemic, Mohawk Valley Community College Advanced Institute for Manufacturing (AIM) focused on assisting small and medium manufacturers with new technology and added additional services to the program that can be implemented remotely. During the first quarter of 2020, AIM started an initiative to connect, inform, and assist clients and manufacturing partners during this challenging time. AIM produced a series of online webinar videos that instructed manufacturers on how to install, configure, and operate Zoom. Additionally, AIM added the PhishingBox Phishing Simulator to cybersecurity services offered. This simulator allows AIM to send out test "phishing" e-mails to company employees to test their cybersecurity awareness. This software can then provide detailed information regarding how many people opened e-mails, what links they clicked on in the e-mails, and what information they may have provided. This information can then be used to determine what employees may need additional training on phishing awareness and AIM can provide that training via online webinars.

Additionally, AIM developed and implemented a Basic Maintenance Technician Academy (BMTA). The Basic Maintenance Technician Academy is offered to a cohort of employees of local manufacturing and distribution businesses. AIM developed the project out of a survey to area manufacturing and distribution centers, and then a focus group was put together. Seven organizations sent management representatives from their maintenance departments to refine their specific needs. This meeting resulted in an outline of eight modules that the organizations agreed upon to be presented in the academy. The businesses required that the information be immediately relevant to the skills, that the material was offered in a flexible time format to address shift work of their employees, and the information would be presented by highly qualified and experienced instructors.

The New York State Cybersecurity Assistance Grant officially launched on October 1, 2020. This program is further outlined in the regional cluster update of this narrative.

Mohawk Valley Community College's (MVCC) Tea Leaf Manufacturing is a social enterprise initiative established in 2020. The program is a source for product design, prototyping and manufacturing solutions. Tea Leaf Manufacturing provides students and faculty with industry relevant learning opportunities while also serving the needs of the Mohawk Valley's manufacturing community. The program services include additive manufacturing, laser etching, welding, CNC machining, and wide format printing. During the 2020 pandemic, MVCC's Tea Leaf Manufacturing assisted several small, regional manufacturers with light manufacturing opportunities during the supply chain crisis. In partnership with Cree Inc., Mohawk Valley Edge, and the Community Foundation, MVCC has established an off-campus training and research and development laboratory for new Cree hires and MVCC students. This new lab is fully equipped with a simulated Cree semi-conductor production line. Cree will staff this laboratory and it will act as a launching pad for technical training careers that will be very plentiful and ramping up rapidly in the Mohawk Valley in the next three years.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	82
Number of jobs created	60
Number of jobs retained	360
Increased/retained sales	\$24,115,001
Cost Savings	\$1,427,004
New investment	\$10,347,270
Non-job Impacts Total	\$35,889,275

Summary of Centers Support of Regional Cluster:

AIM continued to capitalize on the region's rich history of cybersecurity programming in 2020. With the emergence of several new regional cybersecurity firms and the increase in supply chain manufacturing organizations supporting the DoD prime manufacturers, AIM was very active with the development of regional partnerships. During this period, AIM developed cybersecurity training programs and providing awareness and education to manufacturers in the six-county Mohawk Valley Region. While the global pandemic of 2020 forced many employees in the manufacturing industry to work from home, AIM's cybersecurity team was tasked by many businesses to develop company policies and position businesses to have the infrastructure to perform work safely from remote locations. To help small and medium manufacturers adjust to the changes in their environment, AIM released a series of videos regarding staying secure while working remotely and provided information on how to keep productivity as high as possible during this transition period.

MVCC's Advanced Institute for Manufacturing was the recipient of the 2020 New York State Cybersecurity Assistance Grant. As the lead facilitators of this grant program, AIM was tasked with securing the digital infrastructure of New York State manufacturers that participate within a Department of Defense supply chain. In addition, AIM developed cybersecurity partnerships with both private and nonprofit organizations consisting of Twinstates Technologies (a certified woman owned business), Assured Information Security (AIS), RIT's Global Cybersecurity Center, and MEP partners FuzeHub and MTEC. These strategic business partnerships allowed for AIM to deliver cybersecurity programs statewide and meet the requirements of grant programs as well as helping to better protect the manufacturers in New York State as they continue to play a major role in U.S. Government contract fulfillment and are looking to protect themselves from cyber breaches. AIM also found success in 2020 while partnering with NY MEP Centers CEG, AM&T, MTRC, and FuzeHub to offer their regional manufacturing client's access to our assessment, training, and workshop programs.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$195,000
Federal Funding	\$405,428
Matching Funds	\$1,143,242
MEP-Dedicated Employees	5.15

Industry-Oriented Workforce Training:

AIM has been able to capture the expertise embedded at MVCC and deliver it to the manufacturing companies in the six-county Mohawk Valley Region. AIM also engaged with employers throughout 2020 to offer core MEP services such as Lean Six Sigma, Continuous Improvement, ISO Quality Management System, Environmental Health and Safety, and Strategic Planning/Business Coaching. In 2020, AIM continued administration of the SUNY Apprenticeship Program (SAP). MVCC was selected as the lead campus to administer, distribute, and oversee funding awarded to SUNY colleges taking part in the SUNY Apprenticeship Program. The SUNY Apprenticeship Program works with the New York State Department of Labor to provide structured, documented, on-the-job training programs, and related college instruction for Registered Apprenticeship Programs. SAP has had a positive influence on the workforce of the Mohawk Valley. This program provides a different avenue for employers to train and retain employees while simultaneously using the apprenticeship program as a marketing recruitment tool to bring in new talent. The costs associated with training was covered through the SAP, which was much needed during the pandemic as many employers struggled financially. Other than helping employers financially and by providing training, SAP also raised much needed awareness to the manufacturing trades at area high schools. The message was loud and clear: manufacturing can be a career opportunity with high wages, low debt due to college tuition/fees being funded through the grant, and a clean and safe work environment to anyone with interest and a good work ethic. Building the pipeline for the up-and-coming generation is as important as providing present solutions for the manufacturers. In 2020, the program contacted 523 advanced manufacturing employers, held 17 industry roundtables, received applications from 16 SUNY Community College campuses, approved 438 applications for Registered Apprentices, approved 383 applications for pe-apprentices, and supported 21 advanced manufacturing trades.

CARES Work:

In 2020, AIM collaborated with the MVCC Small Business Development Center (SBDC) during the height of the COVID-19 pandemic to provide Mohawk Valley businesses the most accurate and timely information regarding critically important guidelines and incentive opportunities. AIM was able to assist several regional manufacturers' transition to manufacturer personal protection equipment (PPE) and other COVID-19 related products to help combat the virus. These products consist of hand sanitizer, face masks, face shields, disposable gowns, textiles, and disinfectants.

**CITEC Business Solutions
North Country Region
Steve Lockwood**

Activities and Accomplishments:

Small and medium manufacturers in the North Country continued to work throughout the pandemic; many as essential businesses, and others who retooled to provide necessary personal protection equipment (PPE) and sanitizers. CITEC worked with these companies to connect them with both supplies and buyers during the chaotic early days of the pandemic. As things began to settle, CITEC shifted to provide virtual training, especially with a focus on COVID-19 safety and the changing New York State regulations. Providing these webinars was a good way to ease into ensuring that both CITEC and our clients had the right technology to provide and receive online services. Early on, it became clear that companies needed continuous improvements, training projects, and developing new initiatives based on new constraints and opportunities. CITEC shifted its project management training to a hybrid in-person/virtual training based on the needs of the companies registered. The hybrid model allows for the stronger interaction that comes from being in the same room, while providing live training opportunities for everyone. Management training was retooled to be a virtual training with shorter meetings on back-to-back days. This proved to be workable and popular with both participants and the companies they work for. Because management, leadership, and communication issues were continually noted by our clients as strong needs for changing times, this program is being expanded for 2021 to include an advanced level for upper management, and a very basic level communication/workplace expectation training for all employees. During the low-infection rate summer, several of CITEC's clients were ready for in-person improvement work, including shop floor/workflow changes, bid and pricing process improvements, OSHA safety training, and ISO audits.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2019 - 12/31/2019
Number of unique companies served	8
Number of jobs created	59
Number of jobs retained	510
Increased/retained sales	\$28,728,590
Cost Savings	\$1,970,637
New investment	\$14,956,797
Non-job Impacts Total	\$45,656,024

Summary of Centers Support of Regional Cluster:

The North Country Regional Cluster is transportation equipment and materials and aerospace. CITEC serves on the North American Center for Transportation Excellence (NAMTrans) advisory board. NAMTrans worked to survey, interview and assess the changing needs of cluster companies across the region throughout the pandemic crisis of 2020. CITEC engaged several of the member

companies in the newly revised and optimized-for-virtual-delivery Management Development Essentials training including LC Drives, NY Air Brake, and Artick OEM. The class was so successful it was offered again in the late fall re-engaging LC Drives and including Fuji-Semec, a cluster company and "new client" for the MEP network. Metal Craft Marine also engaged CITEC to work on a Six Sigma project to improve competitiveness in their Watertown facility. Also, CITEC assisted Krome Transportation Products with OSHA safety standards as they start up their operations in Plattsburgh.

Center Funding:

01/01/2019 - 12/31/2019	
State Funding	\$195,000
Federal Funding	\$405,428
Matching Funds	\$478,977
MEP-Dedicated Employees	8

Industry-Oriented Workforce Training:

Safety training continues to be a big need for companies across the North Country as well as the rest of New York State . CITEC trains on all kinds of OSHA standards including Lockout Tagout, Confined Space, Electrical/Arc Flash, Accident Investigation, Job Hazard Analysis, Slips, Trips and Falls, Fall Protection, Ergonomics, PPE, and more. OSHA-10 certification is a requirement at many job sites. This training not only saves lives and injuries, but improves overall bottom line by reducing accident payouts, OSHA fines, lost work time, and improves morale and reduces turnover. With New York State Hazard Abatement Board funding uncertain for 2021, CITEC had concerns that some small companies would not be able to ensure compliance and reap these benefits through 2020, but that negative outcome did not materialize. The most frequently cited training need among CITEC clients is management training. CITEC revised their supervisor certification series to better accommodate the needs of clients as well as bettering virtual offering by shortening the sessions and tightening the topics to more deeply cover the most essential. The new training, called Management Development Essentials has proven popular. CITEC's Project Management training became an important new offering with topics including planning charters, resource allocation, stakeholder analysis, SIPOC maps, change management, time management, risk analysis, failure mode analysis, management software and more. CITEC worked with two manufacturers on Project Management training in 2020 through a hybrid in-person/virtual format. The training is suited to that format and has been adapted to a virtual-only format as well.

**Center for Economic Growth
Capital Region
Michael Lobsinger**

Activities and Accomplishments:

2020 was a year full of reacting and pivoting for the Center for Economic Growth (CEG) manufacturing clients. It started strong with several new and ongoing typical MEP services, and then in March everything changed. For the next three months, CEG focused on helping manufacturers in several ways: establishing many of them as essential; creating restart and COVID-19 action plans; communicating ongoing and ever changing COVID-19 state/federal guidelines; partnering with KeyBank to provide grants to MWBE businesses; working with our partners to promote the Paycheck Protection Program and other COVID-19 loans and grants; and identifying SMMs that could pivot and provide personal protection equipment. CEG worked directly with Tech Valley Center of Gravity in partnership with Sunoco Plastics, Arcadia Manufacturing, Benet Labs and with assistance from Rensselaer County to provide face-shields and facemasks. With the CARES funding received, CEG put new effort into building out a supply chain and re-shoring production program offerings.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	128
Number of jobs created	83
Number of jobs retained	128
Increased/retained sales	\$28,463,694
Cost Savings	\$772,000
New investment	\$7,468,850
Non-job Impacts Total	\$36,704,544

Summary of Centers Support of Regional Cluster:

The Capital Region cluster is R&D and Commercialization where CEG as a regional center focuses in the following technology sectors: Advanced Electronics/Semiconductors; Clean Energy/Offshore Wind; Digital Gaming; Biotechnology/Life Sciences; Advanced Materials; and Software. In 2020, CEG supported several Small Business Innovation Research (SBIR) grant application with EcoLong, LLC and Free Form Fibers, made new investments in 3D printing capabilities at the Tech Valley Center of Gravity, coached and hosted four startup in VentureB Plan Series venture pitch, engaged Manufacturing USA Smart Manufacturing Center CESMII, and coached/mentored several manufacturing related startups, including United Aircraft Technology by assisting them through a FuzeHub grant and engineering work on their novel aircraft clamp.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$195,000
Federal Funding	\$405,428
Matching Funds	\$846,070
MEP-Dedicated Employees	7.87

Industry-Oriented Workforce Training:

CEG is heavily involved in workforce training programs for our manufacturers. Through assistance from the Department of Labor and the Manufacturing Association of Central New York, CEG acts as a Group Sponsor for small and mid-sized manufacturers engaged in apprenticeship. In 2020, 14 apprentices were done, a number likely to double in 2021. CEG also began offering ToolingU courses and are looking to expand this offering. With assistance from KeyBank Foundation, CEG helped create a manufacturing bootcamp with Hudson Valley Community College and introduced a Certified Production Technician program at SUNY Schenectady. These programs held limited courses in 2020 due to the pandemic but are funded for additional programming in 2021. CEG regularly engages with manufacturers and education partners in workforce education programming and planning.

CARES Work:

CEG was awarded \$800,000 to promote supply chain & re-shoring efforts within New York State. Early activity included providing supply chain assessments and brief survey on supply chain and re-shoring efforts within the manufacturing community. Assessments included Total Cost of Ownership, Import Substitution, Supply Chain Gap Analysis, etc. Also, CEG has been actively engaged in the MEP Supplier Scouting program. Some funds were used to help centers build out their ability to deliver training virtually. A bulk of programming and funds will be utilized in 2021, including \$200,000 supply chain grants for small and medium sized manufacturersSMMs.

**Manufacturing & Technology Enterprise Center
Mid-Hudson Valley Region**

Thomas G. Phillips

Activities and Accomplishments:

Throughout 2020, Manufacturing & Technology Enterprise Center (MTEC) worked with over 60 Hudson Valley manufacturing companies to improve their competitiveness and long-term 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. In response to the rapidly growing incidence of successful Cyber-attacks to both individuals and all business sectors, MTEC continued to provide Cyber services initially launched to our clients in 2019. MTEC's independent audit is based on standards for cybersecurity assessment by NIST (NIST 800-171) and includes risk identification and management, comprehensive understanding and awareness of current cybersecurity industry standards, external vulnerability testing of firewall protection & internal network exposure, review of current policies related to information security, data protection, and access control, detailed description of the vulnerabilities, prioritized security risks to focus on & maintenance procedures, and assessment of current anomaly, event monitoring & response planning for the future. Over 20 Cyber projects were performed for manufacturers in 2020 with all clients active in the DOD supply chain. Cyber projects continued to be the number one project revenue service delivered by MTEC.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts:

	01/01/2020 - 12/31/2020
Number of unique companies served	36
Number of jobs created	24
Number of jobs retained	63
Increased/retained sales	\$11,227,500
Cost Savings	\$792,000
New investment	\$5,409,349
Non-job Impacts Total	\$17,428,849

Summary of Centers Support of Regional Cluster:

Recognized by both New York State 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 2020. As a result of the COVID-19 pandemic, the activity supporting the Food & Beverage Cluster was drastically reduced in 2020.

NYSTAR's New York Manufacturing Extension Report (2021)

Many operations were either shut down or severely limited for extended periods and were not entertaining any non-essential projects. As the restrictions surrounding the COVID-19 pandemic have eased, we have seen more activity with this market segment and expect it to continue to improve in 2021 and 2022.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$290,000
Federal Funding	\$597,590
Matching Funds	\$815,709
MEP-Dedicated Employees	15.40

Industry-Oriented Workforce Training:

During 2020, both of industry-oriented training programs, incumbent worker and intern program, were significantly reduced from prior years activity levels. Incumbent worker training was limited by the impact of the pandemic on the availability of workers and the need to transition training programs to virtual programs. The availability of workers continues to be problematic during the recovery from the pandemic. Significant progress has been made, especially in the second half of 2020, transitioning most of our service programs to virtual offerings. Our second program, the college STEM intern program, was reduced by 70% in 2020 due to the reduction in contracted projects with clients. As the overall conditions have improved for the economy and the negative pandemic effects have eased, the activity associated with this program has picked up.

CARES Work:

Through the CARES grant, the Center's work was focused on virtual assessments and assistance. MTEC engaged 1,027 clients with manufacturing contacts from the Hudson Valley region in the fourth quarter of 2020. New clients (as defined by NIST) accounted for 398 of the engagements, consistent on our focus to leverage this grant to encourage new clients to utilize the MEP system; thereby, increasing market penetration. These efforts concluded in client connections that resulted in 48 assessments ranging from high-level to in-depth in scope. Of these 48 assessments, 40 were conducted with new clients to the MEP system. Based on our virtual assessments, 15 virtual assistance projects were contracted with companies, 10 of which were contracted with companies that are new (as defined by NIST MEP) to MTEC. These projects range in nature from Engineering and Cybersecurity to Quality. In the last quarter of 2020, four virtual assistance projects were completed in total, all of which were completed with current clients, leaving them ineligible to apply for project funding.

MTEC continued agreements with three NYMEP centers to support the efforts of this award. CITEC and AM&T have been contracted to develop different styles of an assessment tool and test the product in their respective regions. Additionally, we have continued to advertise other awardees efforts via email and social media.

ITAC
New York City Region
Kinda Younes

Activities and Accomplishments:

ITAC shifted its focus during COVID-19 to help New York City (NYC) manufacturers during the pandemic. ITAC provided assistance during this period that included: collecting data from and advising manufacturers; working with partners in NYC and New York State to coordinate responses and share information; and redirecting services online where applicable. In mid-March, ITAC implemented a COVID-19 business impact and response survey with NYC companies. In addition to the targeted outreach that the team conducted directly with manufacturers, the survey enabled ITAC to reach hundreds of companies to understand their immediate situation and assistance needed as well as open a channel for follow-up communications. Data was shared with the New York City and State government and economic development organizations to facilitate assistance package creation and an understanding of the COVID-19 crisis for NYC companies. From a supply chain perspective, the information enabled a better understanding of manufacturers that were willing and able to help with personal protection equipment (PPE), logistics and food distribution. ITAC is conducting a comprehensive Contract Manufacturing Market Assessment throughout NYC’s five boroughs, aimed at gaining an in-depth understanding of contract and fee-for-service manufacturing companies, and their ability to serve both startups and established manufacturers. This is particularly important as NYC is home to a large creative class which designs and develops countless products across numerous industries. Growing NYC’s contract manufacturing base will attract/retain innovators and entrepreneurs, and create skilled, middle-class jobs. ITAC worked with National Grid to develop a COVID-19 version of their Manufacturing Productivity Program to reimburse manufacturers for costs incurred to retool their operations/processes/systems to capture market opportunities created by the pandemic and related efforts.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	149
Number of jobs created	911
Number of jobs retained	385
Increased/retained sales	\$157,836,600
Cost Savings	\$20,864,100
New investment	\$60,230,098
Non-job Impacts Total	\$238,930,798

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 New York City and State resources. 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 New York City and State.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$315,000
Federal Funding	\$677,012
Matching Funds	\$1,066,823
MEP-Dedicated Employees	9

Industry-Oriented Workforce Training:

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 continues to work closely with various partners and other key players to discuss workforce initiatives including internships and apprenticeships. ITAC conducted two webinars at the start of the pandemic to assist manufacturers with workforce needs. One was a series of workshops where ITAC discussed employee handbooks and how to adjust to COVID-19. The second was a townhall focused on reducing the risk when resuming operations. ITAC continues to provide a wide range of workforce related services to NYC manufacturers, examples include human resource assistance, culture initiatives, training manual assistance, sales training, and anti-harassment training.

CARES Work:

In July, as part of the NYMEP Cares initiative, ITAC started the PPE Assistance Program to assist small and medium manufacturers statewide to efficiently and sustainably secure PPE. In 2020, ITAC conducted multiple webinars focused on the pandemic. ITAC developed a simple downloadable forecasting model which allows manufacturers to enter basic inputs based on their “new/post-pandemic” operating environment to “right-spec” and forecast their PPE needs. The database forecasting model allows for quantity calculations based on simple inputs. These inputs include the employees, category, and types of PPE (disposable, re-use), frequency of consumption on a daily basis, and required level of on-hand PPE inventory for safe business continuity. The model allows for manufacturers to understand the needed ordering quantities, and even use the tool to track the inventory supply. ITAC identified PPE suppliers across New York State allowing PPE suppliers to promote their products, while simultaneously helping those looking for PPE know where to go depending on their needs. Because no public central repository exists for New York State suppliers of PPE, ITAC identified ThomasNet, a 100+ year old New York company, that can host New York State manufacturers that are able to provide PPE and ensure that basic information remains current. In November, ITAC partnered with Thomas to present the Thomas COVID-19 Response System for New York State PPE Manufacturers/Suppliers webinar.

**Manufacturing and Technology Resource Consortium
Long Island Region**

Dr. Imin Kao

Activities and Accomplishments:

Working with manufacturers on Long Island since 2016, Manufacturing and Technology Resource Consortium (MTRC) has seen a significant increase in company inquiries for support services as they look to enhance their core competencies. Partnering with more than 20 entities including Stony Brook University (SBU), economic development, and public and private organizations, MTRC engages with companies and assists them to become more competitive in their business. As a result, MTRC is anticipating more active engagement with companies within the region in the next five years in all areas of business and contractual tasks.

At the end of 2020, MTRC had 388 project engagements, with 326 unique companies in the year. One important new initiative of MTRC is the design and implementation of an online application portal for awards and projects of MTRC, in partnership with the Center of Excellence in Wireless and Information Technology (CEWIT) in 2020. The application portal is designed to streamline the application process for companies to engage with MTRC, to facilitate the evaluation and approval of project proposals, and to support the post-award document collection and follow-up. This portal is expected to start in the beginning of 2021 in anticipation of the next phase of funding from 2021-2025. MTRC's Executive Director Dr. Imin Kao continues to co-chair the LI Manufacturing and Industry Committee (previously the LI Tradeable Sectors committee), which has a broad membership from the trading sectors and various manufacturers from the region. Working with the regional economic council (LIREDC/ESD), it produced an annual report to identify important manufacturing sectors in the region with challenges and opportunities. This committee is working on expanding the scope of activities by inviting participants from other regions and increasing the networking and reach. During the pandemic, the committee worked on assessment of the COVID-19 pandemic for industry on Long Island and analysis of job market and economic impacts. Assessing various impacts brought about by the pandemic with evaluation, the committee submitted a summary report to LIREDC/ESD.

Projects were in progress when the COVID-19 pandemic started early in 2020, which prompted a shift in focus to COVID-19 related issues in partnership with FuzeHub and other NY MEP regional centers. MTRC increased our communication to weekly eblasts to keep our clients updated on resources and support services during the pandemic. MTRC aggregated webinars, links and other support initiatives from program partners and agencies within the region. In addition, MTRC utilized its network and resources to assist local companies during the pandemic. Examples include: (i) arranged local providers of a personal protection equipment (PPE) supplies to hospitals in New York State, especially in NYC; (ii) made connections with county and state agencies and confirmed their capabilities of manufacturers; (iii) guided a company in finding manufacturing space to set up N95 mask production; (iv) worked with program partners to build a consortium of manufacturers with sewing capabilities to support PPE production efforts.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts

	01/01/2020 - 12/31/2020
Number of unique companies served	32
Number of jobs created	106
Number of jobs retained	189
Increased/retained sales	\$16,337,033
Cost Savings	\$2,155,495
New investment	\$8,324,679
Non-job Impacts Total	\$26,817,207

Summary of Centers Support of Regional Cluster:

MTRC provides consulting support and supplemental awards to all qualified manufacturers on Long Island based on the nine objectives of funding categories stipulated in the “workplan” document, which includes the supports to the programs of Strategic Partnership for Industry Resurgence, Sensor Center, Center for integrated Electric Energy (Center for Advanced Technology), Center for Biotech (Center for Advanced Technology), Center of Excellence in Wireless Technology, Advanced Energy Research Technology Center(Center of Excellence), workforce development, and workforce training.

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$315,000
Federal Funding	\$677,012
Matching Funds	\$8,324,679
MEP-Dedicated Employees	2

Industry-Oriented Workforce Training:

MTRC works closely with the Center for Corporate Education (CCE) at SBU to support multiple educational programs for workforce training in industry. Working closely with the county labor department and Workforce Development Institute (WDI) to bring additional support to workforce training projects, MTRC also facilitates other providers of workforce training on Long Island to provide workforce training services to manufacturers. In addition, MTRC is part of the Long Island Workforce and Education Advisory Committee which comprises public and private sectors of industry throughout Long Island, including Suffolk and Nassau County Community College to leverage services and collaborate in outreach efforts, and participating in activities hosted by the Long Island Apprenticeship and Workforce Development Task Force.

MTRC has hosted annual Robotics Camp as a K-12 outreach STEM education program and workforce development for high school students on Long Island. In partnership with Mechanismic, Inc., the Robotics Camp in 2020 was changed to a virtual platform for the first time due to the

pandemic. The students learned and practiced engineering design, practical electronics, and microcontroller programming by working with the instructors and in a team on projects and assignments. Given the success of the virtual Robotics Camp this year, MTRC plans to conduct an assessment and make this Robotics Camp in 2021 available to the high school students in all 10 regions of the state.

CARES Work:

MTRC is a part of the team of CEG (the Capital Region MEP as the lead) and TDO which received CARES funding for "Supply Chain and Re-shoring." In 2020, MTRC and TDO worked with CEG to establish the scopes of work and procedures to disseminate the funding to support the objectives of the CARES awards in supply chain and re-shoring. MTRC had contacted companies to participate in the CEG re-shoring survey. It also worked with companies on the re-shoring initiative, response to the re-shoring survey, and the opportunity in assessment and grant application. MTRC emailed more than 2,500 manufacturers on its contact list. MTRC also partnered with MTEC and ITAC, the recipients of the other two CARES funding in online assessment/assistance and PPE, to work with manufacturers on Long Island to apply for the CARES funding. Other topics specific to the pandemic and issues relating to CARES included: Offshore Wind (OSW) and supply chain study, cybersecurity, biotech supply chain with impacts on US business, and re-shoring.

**FuzeHub
Statewide
Elena Garuc**

Activities and Accomplishments:

FuzeHub, like many others, adapted its business model and activities throughout the year in response to the new work climate brought upon by COVID-19. While staff initially worked remote, everyone was back in the office in some capacity by the end of 2020. During this transition, staff proved efficient in maintaining productivity. The second half of the year was extremely busy with several large initiatives and additional funding in the form of CARES, Build4Scale and Innovation Fund/ COVID-19 grants.

FuzeHub shifted many of its efforts to a virtual platform and migrated networking, matching, and training to virtual events. FuzeHub continued to support NYSTAR/ESD in several initiatives and replaced the NYS Innovation Summit with a series of industry specific virtual sessions over a two-day period highlighting the NYSTAR programs.

FuzeHub actively engaged in several statewide initiatives and programs to support companies during the pandemic.

FuzeHub marketing and outreach remained strong, as well as public relations efforts across the state.

Metrics

FuzeHub had \$53.6 million in non-job-related economic impacts, such as revenue, cost savings, and new investments. In addition, FuzeHub had 174 retained jobs impact, and 173 new jobs created impact.

Assistance Provided to Manufacturers in New York State:

FuzeHub received 395 requests for assistance during 2020.

Requests By Need and Resource Referrals By Type:

Client needs have varied, most had more than one issue they were trying to solve. Notably 17%-25% of requests are related to sourcing/contract manufacturing.

FuzeHub and its partner MTRC set aside \$200,000 in 2019 under this program and \$100,000 for 2020. For the 2020 program, in order to be eligible for funding, companies must be new to NY MEP, which is defined as not having completed a project with their regional MEP Center within the last three years. A portion of the total funding was available to each of the 10 regional MEP centers on a pro-rata distribution basis that mirrors the current MEP funding distribution from New York State.

During the reporting period, FuzeHub awarded seven (7) grants for a total of \$35,000, four (4) of which were for the 2019 grant and three (3) for the 2020 grant.

2020 Grant Award Winners:

- Turner Bellows (Finger Lakes), \$5,000
- Retlif Testing Laboratory (Long Island), \$5,000
- K Tooling (Southern Tier), \$5,000

DoD Cybersecurity Assistance Grant:

During 2020, Mohawk Valley Community College (MVCC) and the Advanced Institute for Manufacturing (AIM) were awarded a DoD Cybersecurity Assistance grant by ESD to help small-to-medium manufacturers, who are part of the DoD supply chain, learn how to perform a cybersecurity self-assessment based on NIST SP 800-171 and meet their current DFARS cybersecurity requirements.

FuzeHub partnered with AIM to assist a cohort of 320 Department of Defense (DoD) supply chain manufacturers receive cybersecurity assistance and training. Of these 320 cohort manufacturers, 67 will be eligible for a grant for a personalized cybersecurity risk assessment according to the DFARS cybersecurity requirements detailed in NIST SP 800-171. These assessments will be performed by AIM, the Manufacturing and Technology Enterprise Center (MTEC), and Twinstare Technologies (a New York State MWBE company).

During the reporting period, 33 transformational clients received awards via the DoD Cybersecurity Assistance Grant. The maximum award amount for a company was \$6,000. All grant recipients were required to pay a minimum of 20% of the project costs.

As part of its cybersecurity initiatives, FuzeHub marketed and participated in three cybersecurity workshops.

- September 22 - Intro to Cybersecurity and Cohort Overview
- October 27 - Industry Standards and Requirements
- October 28 – Mohawk Valley Community College (In person)
- November 18 – Virtual (Originally scheduled for Long Island)
- November 24 - Enemies and Attacks
- December 9 – Virtual (Originally scheduled for Rochester)

Solutions Program Grants:

FuzeHub's Solutions Program developed grants to help eligible New York State companies succeed and grow. Applications for these grants are judged based on need, readiness, economic impact,

and probability of success. These grants are project-based and paid directly to a public, private or university partner for work that is performed satisfactorily on the applicant's behalf. Applicants may request up to the maximum amount, up to \$10,000, but must also contribute 10% of their own funding toward the project cost in order to receive the awarded amount.

During the reporting period, FuzeHub awarded five (5) grants for a total of \$57,958. Four (4) of these grants were projects that represent direct responses to the COVID-19 pandemic. The remaining grant is an indirect response to a change in buying habits for food products during COVID-19.

New Technology Adoption Initiatives

FuzeHub assisted RAD Soap (Capital Region) acquire an important new technology. By supporting a successful grant application to the Workforce Development Institute (WDI), FuzeHub aided RAD's adoption of automated bottling for its popular hand sanitizer, which was in especially high demand at the onset of NY-PAUSE.

FuzeHub also organized and led a "How to Build Your Manufacturing Business: Southern Tier Solutions Forum" on February 19th in Ithaca. This event was held in partnership with the local MEP Center, AM&T, and with Rev Ithaca, which supports hardware startups. Companies were matched with hand-picked resources based on their business and technical needs. Event participants also gained insights from a panel discussion that included several contract manufacturers with advanced equipment. There were 75 registrants for this event, including 25 resources (many of which are NYSTAR funded).

During the reporting period, FuzeHub continued to enhance its on-line portal, a digital platform where New York State companies can submit requests for assistance 24/7. The addition of a new Grants tab is facilitating the tracking of applications for the funding of new technologies. There has also been numerous additions to a Knowledge Base of New York State contract manufacturers and other service providers with advanced capabilities.

The Solutions Program was also an integral partner in the hosting and presentation of the Build4Scale workshop that was held in Kingston, NY in January 2020. This hands-on event used tangible exercises so that participants could prove out their specific design and manufacturing needs by identifying potential issues early before beginning production.

In addition, FuzeHub produced, released, and promoted YouTube videos that described applications for robotics, augmented reality, Industry 4.0, and cloud computing.

FuzeHub organized and led "Machining & Fabrication Post-COVID-19: A FuzeHub Solutions Forum" on August 6, 2020. FuzeHub's first-ever virtual Solutions Forum provided expert insights about how to improve operations and increase profitability while keeping employees safe and healthy during COVID-19. This half-day event also marked FuzeHub's first use of Remo, an on-line platform that supports physical distancing and provides an experience similar to FuzeHub's signature events in the physical world.

Using Remo, New York State manufacturers navigated a virtual venue with tables, chairs, a stage, and multiple floors. These forward-thinking companies met with hand-picked resources and gained expert insights about machining and fabrication in the “new normal”. With nearly 170 registrants from across the state, this event saw 60 companies meet with 30 resources.

Other key initiatives:

FuzeHub developed a database of suppliers from across New York State that can provide COVID-19 related suppliers such as personal protective equipment (PPE). This information was used to respond to requests from New York State agencies and companies.

FuzeHub researched and developed criteria for and launched the COVID-19 Grant Fund, part of the Jeff Lawrence Innovation Fund for New York State manufacturing that FuzeHub administers. The COVID-19 Grant Fund awarded \$400,000 for the development and production of N95 masks and ventilators.

In addition, FuzeHub developed lists of COVID-19 resources for New York State manufacturers, narrated presentations about available COVID-19 related assistance from Empire State Development (ESD), made referrals to ESD assets, and shared information about federal initiatives such as the Paycheck Protection Program (PPP).

NYS Manufacturing Day 2020:

FuzeHub organized and led NYS Manufacturing Day 2020, a virtual, interactive, and statewide event that recognized the contributions of New York State manufacturers, showed students career pathways, and helped build awareness of educational and training opportunities. The October 16th, event was held in partnership with Mohawk Valley Community College (MVCC) and two regional NY MEP centers: Advanced Institute for Manufacturing (AIM) and the Manufacturing and Technology Resource Consortium (MTRC). Eight of 10 regional NY MEP Centers participated in this half-day event.

The metrics for NYS Manufacturing Day 2020 include:

- 658 registrants
- 561 attendees
- 97 exhibitors
- 569 people logged in (86.5% yield)
- 3 paid sponsors
- 4 partners, including FuzeHub

CRM Portal Enhancements:

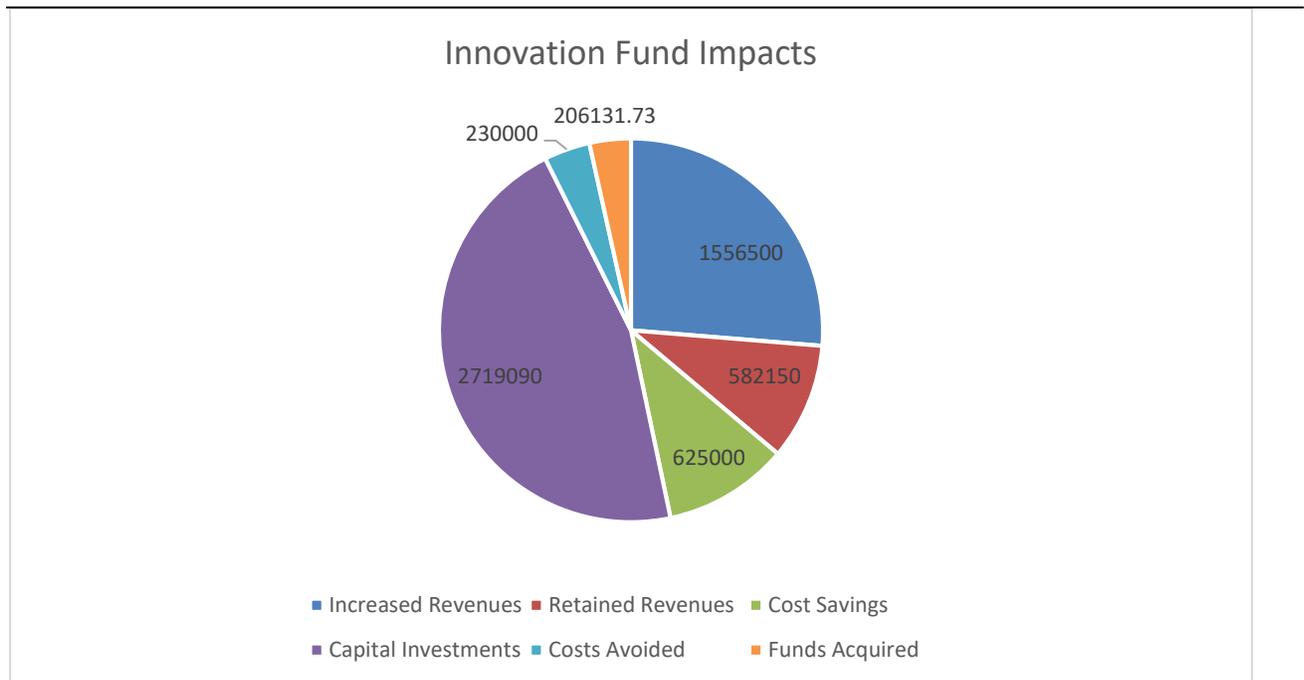
During the reporting period, FuzeHub also continued to enhance its on-line portal, a digital platform where New York State companies can submit requests for assistance 24/7. These improvements included new reports and numerous additions to a Knowledge Base of New York State contract manufacturers and other service providers.

Innovation Fund:

There are two major tracks for the Innovation Fund. One track is geared towards grants for Manufacturers. These grants are designed to encourage collaboration between not-for-profit organizations and SMEs in New York State.

Track 2 is the Commercialization Competition. This competition is held once a year and is focused on early stage or startup manufacturers to further develop their prototype to pursue additional investment and customers.

The total amount awarded from the Innovation Fund in 2020: \$983,129



Commercialization Competition:

Total Amount Awarded: **\$ 300,000**

November 2020 Funding Round: **\$ 300,000**

Funding application period ended on August 31, 2020; 28 applications were received, and six (6) projects were selected in November.

- Paradigm of NY LLC – \$ 50,000 (Finger Lakes)
- Mechanismic Inc. – \$ 50,000 (Long Island)
- Hands-Free LLC – \$ 50,000 (New York City)
- WexEnergy LLC – \$ 50,000 (Finger Lakes)
- Aviate Audio – \$ 50,000 (Western NY)
- Del Tocaroro (Norwehy) LLC – \$ 50,000 (Southern Tier)

Manufacturing Grants:

February 2020 Funding Round: \$383,129

Funding application period ended on February 28; 49 applications were received, and eight (8) projects were selected in April.

- CNY Biotech Accelerator, SUNY Upstate Medical University / CathBuddy, Inc. - \$50,000 (Central New York)
- University at Buffalo, School of Engineering and Applied Science / Innosek, LLC - \$50,000 (Western New York)
- Canisius College / Electroskip LLC - \$34,000 (Western New York)
- Alfred University, Department of Glass Science / Hillcrest Companies - \$50,000 (Western New York)
- University at Buffalo, School of Dental Medicine, Department of Oral Biology / Optimed Technology, Inc. - \$50,000 (Western New York)
- Queens College / QuatCare LLC - \$50,000 (New York City)
- University of Rochester, Biomedical Engineering / SiMPore - \$49,540 (Finger Lakes)
- Rochester Institute of Technology, Golisano Institute for Sustainability / Falcon Fuel Cells, Inc. - \$49,589 (Finger Lakes)

2020 Covid-19 Funding Round: \$300,000

Funding application period ended on April 17; eight (8) applications were received, and four (4) projects were selected in April.

- Spiro Devices, LLC - \$100,000 (New York City)
- PVA (Precision Valve & Automation, Inc) - \$100,000 (Capital Region)
- General Composites Inc - \$50,000 (North Country)
- Environmental Composites, Inc. - \$50,000 (Mohawk Valley)

Marketing

NYMEP:

There were several NY MEP initiatives launched this year to aid manufacturers in avenues from cyber-security to pandemic relief and assistance, to manufacturing personal protection equipment and supply chain management.

The FuzeHub and the NY MEP Marketing Group hosted and attended two webinars one titled Podcasting 101 on May 21, 2020 and one on <https://fuzehub.com/ny-mep-social-media-webinar/> on May 28th, 2020.

NY MEP hosted a series of webinars designed to educate manufacturers on ways they could pivot their business practices and processes to help combat the COVID-19 Pandemic.

Blog:

- FuzeHub currently publishes three posts per week to the blog, with the following content series and topics:
 - Success Stories, Ask the Experts, Faces of Manufacturing
 - Cybersecurity, Industry 4.0, Manufacturing Automation, Additive Manufacturing

NYSTAR's New York Manufacturing Extension Report (2021)

- MEP, NYSTAR Innovation Asset Highlights and Features
- The New Manufacturing Workforce
- NYSTAR Innovation Asset Highlights and Features
 - New Content Series include: The New Manufacturing Workforce; Cradle to Grave: An Entrepreneurs Guide to Bootstrapping Their Business; NYSTAR Network Center Profiles and Features

Email marketing: FuzeHub sent 157 email campaigns in 2020.

Podcast planning and production: The podcast team has produced a total of 26 podcasts; cumulatively, these podcasts have been downloaded (listened to) 1,674 times, averaging about 64 listeners per podcast.

Industry-Oriented Workforce Training

The Build4Scale NY initiative helped educate hardware start-up companies in the areas of design optimization, bill of materials, process mapping and other areas critical to manufacturing scale-up. By arming them with this knowledge, they were better prepared to engage with a contract manufacturer as they looked to transition from a single prototype to initial production units. A live workshop held in January provided training to 44 attendees, including start-up companies across a variety of industries and mentors experienced in design, engineering, entrepreneurship, and manufacturing. All subsequent live workshops planned throughout NY had to be cancelled because of COVID-19, but eight webinars and two virtual workshops, with a combined attendance of 394 participants, were extremely successful in helping companies advance their products. Despite the limitations of virtual training, tools like worksheets and templates allowed participants to adapt learnings to their own products and businesses and put the various theories into practice.

Types of companies assisted:

Primarily small and mid-sized manufacturers.

Impacts:

	01/01/2020 - 12/31/2020
Number of unique companies served	79
Number of jobs created	163
Number of jobs retained	130
Increased/retained sales	\$8,428,268
Cost Savings	\$1,392,000
New investment	\$18,344,940
Non-job Impacts Total	\$28,165,208

Center Funding:

01/01/2020 - 12/31/2020	
State Funding	\$1,298,000
Federal Funding	\$1,325,723
Matching Funds	\$1,146,890
MEP-Dedicated Employees	10

CARES Work

The Manufacturing Reimagined initiative was one of the funding tracks available under the CARES Act, in which a series of webinars and virtual workshops were administered to provide insights and resources available to manufactures on a variety of timely and relevant issues. Technical experts and manufacturers from across New York State shared insights, available resources, and best practices on how to deal with topics as diverse as “Supply Chain and New Supplier Vetting,” “Maintaining Quality and Productivity while Keeping Employees Safe,” and a special networking event highlighting the additional challenges in the Food and Beverage Industry. In total, eleven events were held with over 400 attendees participating to provide support to manufacturers looking to recover from pandemic and position themselves to be more resilient and competitive in the future.

Following each event, attendees could request a report containing relevant content from event, contact info for the presenters, website links for additional resources, and a personalized recommendation for a NYSTAR Asset that could assist with their COVID-19-related challenge. By partnering with a NYSTAR Asset, manufacturers were able to leverage relevant expertise to fast-track their projects to address those challenges and had the opportunity to apply for up to \$10,000 in funding. The total available fund of \$170,000 supported 18 unique projects in areas as diverse as engineering analysis, process automation studies, and alternate materials integration to address supply chain obstacles.