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NEW YORK
Manufacturing
Extension Partnership

INNOVATIVE SOLUTIONS FOR NYS MANUFACTURERS

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WELCOME

NEW YORK Manufacturing Extension Partnership

The New York State Manufacturing Extension Partnership (NY MEP) assists small and mid-sized manufacturers in becoming more competitive.

10 regional centers and 1 statewide center offer a wide variety of services: innovation, process and quality improvement, product development, scale-up, tech acceleration, sustainable manufacturing and more. The New York State MEP program is administered by Matt Watson and Jessica Herbert of Empire State Development's Division of Science, Technology and Innovation (NYSTAR). It is part of the National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership (NIST MEP).

NEW YORK STATE OF OPPORTUNITY. Division of Science, Technology & Innovation
A Division of Empire State Development

PART OF THE MEP National Network™

The MEP National Network™ is a unique public-private partnership that delivers comprehensive, proven solutions to U.S. manufacturers, fueling growth and advancing U.S. manufacturing.

New York Manufacturing Extension Partnership is the official representative of the MEP National Network in New York State.

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TDO • TRAIN DEVELOP OPTIMIZE
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ALWAYS LOOKING FORWARD

How the New York Manufacturing Extension Partnership helps manufacturers compete and win

New York State has always been a place where innovators thrive and entrepreneurs bring new products and technologies to market. Today, manufacturing employs nearly half a million New Yorkers and contributes $73 billion annually to our economy. Recent and ongoing strategic investments in high-tech industry clusters across the Empire State are helping businesses build on our strong manufacturing legacy.

Our state's manufacturing industry is defined by the big ideas we pursue and our relentless push to become ever stronger and more competitive. And the New York Manufacturing Extension Partnership (NY MEP) is the go-to resource for the solutions businesses need to become the most competitive version of themselves.

Every day, NY MEP staff are on the shop floors of small and mid-sized manufacturers, helping them take on challenges, improve processes, adopt new technologies, reduce costs, and drive new revenue and job growth. This network of organizations is a critical partner at a time when new and traditional industries are applying technology-enabled innovation to gain market advantage and generate entirely new sectors.

When a manufacturer isn't sure where to turn, they turn to us at NY MEP. Regardless of the challenge they face or the goal they hope to achieve, manufacturing firms can come to us to gain access to expertise, assets, resources and programs to implement new solutions that unleash their growth.

And the reality is, we've delivered results.

For example, in the North Country, the local MEP center helped a paper producer realize major cost savings by implementing a solution to remove biomolecules from its river water source; they had been affecting the color of the paper. In Western New York, the local MEP center helped a terra cotta manufacturer adjust its production methods, resulting in an 85 percent drop in defects and $2.5 million increase in sales. And in the Mohawk Valley, the local MEP center helped a manufacturer develop a new series of safety training videos that were translated into Burmese, Karen, and other languages to better accommodate the company's important refugee workforce.

Stories like these, in which NY MEP helped to fill a gap, solve a problem, or improve a process, can be found all over the state.

In 2018, NY MEP—through its network of 10 regional centers and one statewide center—helped create or retain 5,351 jobs and generated $819 million in company cost-savings, new client investments and increased/retained sales.

NY MEP centers coach manufacturers on continuous improvement, and we practice it ourselves. We create new programs and deepen our expertise. We test what works and leave behind what doesn't. We refine our approach and work to ensure every manufacturer knows when, how and why to access our support.

Because as we look ahead, the waves of change are only growing more intense. Artificial intelligence and machine learning, augmented reality and robotic automation, 5G and the Internet of Things—this Fourth Industrial Revolution is expected to bring massive change.

We can ride these waves to a more prosperous future, but we need to be always looking forward. If New York manufacturers stay ahead of the curve, they'll stay ahead of their competition.

NY MEP is here to help make sure that happens. It's about what we do next, together.

In the pages that follow, you'll learn more about what NY MEP does and who we are. The big thing we hope you take away from this debut NY MEP publication: If you're a manufacturer and you're facing a challenge, we're here to help. Contact us.

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In Western NY, a terra cotta manufacturer increases sales by $2.5 million with the assistance of ***NY MEP Center, Insyte.***

Did you know?

NYS MANUFACTURING AT A GLANCE

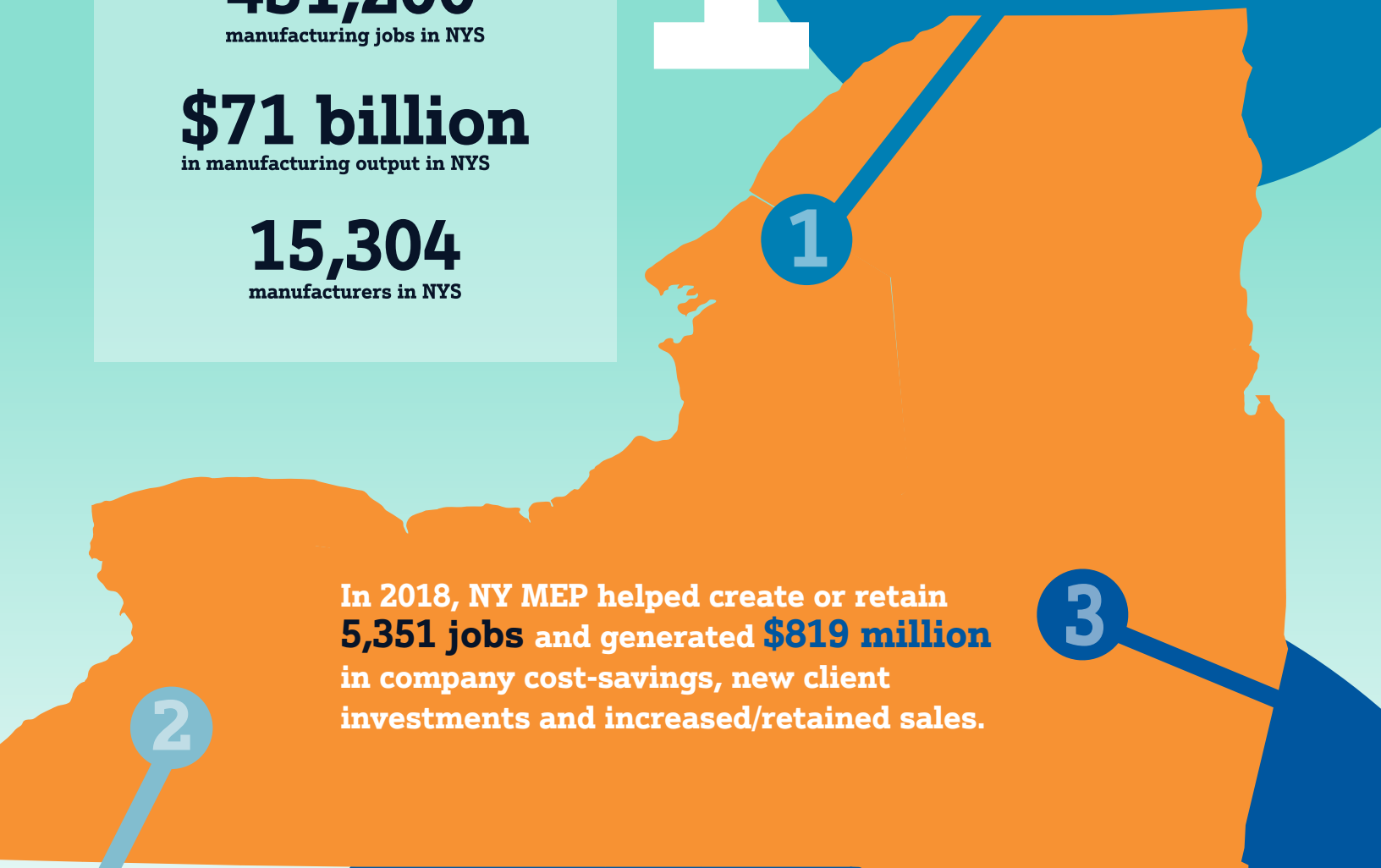
451,200
manufacturing jobs in NYS

$71 billion
in manufacturing output in NYS

15,304
manufacturers in NYS

1

A manufacturer of specialty papers achieved cost savings and production improvements with the help of ***North Country NY MEP Center, CITEC.***



In 2018, NY MEP helped create or retain 5,351 jobs and generated $819 million in company cost-savings, new client investments and increased/retained sales.

An aluminum extruder received assistance from ***Mohawk Valley NY MEP Center, AIM.*** The results? A rollout of new video training processes to help grow their workforce.

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NY MEP Center for the Capital Region

Center for Economic Growth (CEG)

The Center for Economic Growth (CEG) is the NY MEP center for the Capital Region. "If a manufacturing company hits a roadblock, they reach out to us," says Michael Lobsinger, center director for CEG's Business Growth Solutions practice. CEG also assists manufacturers who want to grow or expand in New York's Tech Valley. "Part of what makes us unique is that we're also an economic development organization," Lobsinger says.

Lobsinger's education, experience, and perspective help make CEG an asset to regional manufacturers. A native of North Dakota, Lobsinger earned a degree in mechanical engineering before working for Boeing in Seattle for over five years. When he decided to earn an MBA, he chose Rensselaer Polytechnic Institute in Troy because of the school's strong engineering focus.

At Rensselaer, Lobsinger focused on the commercialization of technology, entrepreneurship, and projects related to clean technology, renewables, and alternative energy. Notable projects included strategic analysis with GE to study the hydrogen economy and spending a summer with the Shell Global research center to explore businesses opportunities for Shell innovations.

Lobsinger also started a company, Float Tech Inc., that developed an inflatable life jacket that was approved by the U.S. Coast Guard. This experience introduced him to CEG and the MEP system in 2002. "It was through CEG's Venture B program that we received our first local investment," he says. "CEG also helped us to find manufacturers and partners with the skills that we needed," such as cut-and-sew services and radio frequency welding for the inflation bladders.

When the 2008 recession hit, Lobsinger transitioned to supporting the advancement of new technologies. As part of the Lighting Cultivator (Linc) program supported by NYSERDA, he helped foster the commercialization of new lighting technologies. Later, this led to an invitation from Jeff Lawrence, former CEG center director, to join the MEP center and manage its NYSERDA-funded Economic Development Growth Extension (EDGE) initiative.

Total Quantified Economic Impact:

$210 Million (5-yr.)

(The sum of sales increases/retention, cost savings, client investments, and the economic impact of jobs created/retained.)

When Lawrence died in 2015, Lobsinger became the interim center director and then later the new center director. Like Lawrence, after whom FuzeHub's Innovation Fund is named, Lobsinger is committed to advancing the growth of early-stage manufacturing companies and building long-term coaching relationships with businesses.

Because CEG is well-known throughout the Capital Region, many manufacturers know that "if you have a question about business, come ask us," Lobsinger says. CEG also advertises in trade magazines and offers lunch-and-learn sessions in order to reach companies that may not be familiar with CEG's programs.

These efforts aren't a canned sales pitch, however. As Lobsinger explains, CEG delivers training in the Sandler Sales System, which teaches salespeople how to become trusted advisors. "We use the same technique that we sell," Lobsinger says. "We talk to customers to discover their pain points. We go and listen. If we're not a fit, we tell them." Then, if a project makes sense, there's a formal contracting period with a well-defined scope of work and costs.

Like other NY MEP centers, CEG can access grants from National Grid, the Workforce Development Institute, and other organizations when applicable. Recently, CEG has leveraged KeyBank Foundation funding to provide pro-bono services to startups. "We focus on solid contracts and scopes of work that can be leveraged into a solid grant proposal," Lobsinger says. In undertaking projects with manufacturers, CEG either accesses internal expertise, third-party partners, or a combination that meets the company's needs.

Although CEG offers many of the same services as other regional NY MEP centers, its role as an economic development organization makes it unique. Because part of the larger CEG organization is membership-based, the overall business model is distinct. For Capital Region manufacturers who need business or technical assistance, the NY MEP center within CEG provides services they won't find anywhere else.

For example, CEG is working closely with NYSERDA to help make regional manufacturers a critical link in the supply

“CEG is also one of the few NY MEP centers that can train and deliver Technology-Driven Market Intelligence (TDMI) and Tech Scouting, growth services for businesses that want to expand into new markets or find technical solutions to manufacturing challenges.”

chain to the offshore wind industry. CEG is also one of the few NY MEP centers that can train and deliver Technology-Driven Market Intelligence (TDMI) and Tech Scouting, growth services for businesses that want to expand into new markets or find technical solutions to manufacturing challenges.

CEG also provides unique programming in solar energy, lighting, and sustainability. Through the SolarGEN program, for example, a local bottling company installed 680 kW of solar power for a lifetime savings of $2.4 million. Overall, CEG helped manufacturing and technology clients increase or retain revenues of $84.6 million and realize $23.6 million in cost savings in a five-year period ending in the 2017 fiscal year.

Some of CEG’s recent success stories include projects with startups like Vital Vio, which pursued TDMI to discover the best applications and markets for its bacteria-killing LED technology; and AS9100 quality management training for Greno Industries, an established machine shop that retained $600,000 in sales as a result of CEG’s assistance. Lobsinger also highlights how CEG’s lean manufacturing and strategic work with Simmons Machine Tool, a railway wheel-set machine manufacturer, led to $3 million in new sales and the addition of five jobs.

CEG has a long history of serving manufacturers in the region and has worked with companies like Blasch Precision Ceramics; Ducommun, a leading aerospace supplier; and Cambridge Valley Machining. The “Impacts and Case Studies” section of CEG’s website provides additional examples of how CEG is driving economic growth.

Michael Lobsinger is the center director for Business Growth Solutions at the Center for Economic Growth (CEG) in Albany.

Michael Lobsinger

For more information on New York MEP, visit ceg.org

Mile Lobsinger teaches a Venture B Innovation Series class how to build a Bill of Materials (BOM).

NY MEP Center for the Central New York

Train, Develop, Optimize (TDO)

Train, Develop, Optimize (TDO) is the NY MEP Center for Central New York, a five-county region that includes Syracuse. Since 1988, this non-profit organization has helped local companies to understand and implement state-of-the-art technologies into their product lines and facilities. A regional MEP Center since 1992, TDO helps manufacturers grow their businesses and advance their operations through continuous improvement and workforce development.

Formerly known as the Central New York Technology Development Organization (CNY TDO), TDO is a team of trusted advisors that helps manufacturers understand where they can go and how they can get there. The NY MEP Center has regular ongoing coaching and mentoring relationships with companies and offers training in areas such as lean manufacturing and Six Sigma. By helping manufacturers to develop their people, products, processes, and capabilities, TDO is supporting innovation, competitiveness, and growth.

In addition to engineering assistance and information about best practices, TDO offers technology promotion in total productive maintenance (TPM), smart manufacturing, the Internet of things (IoT), and data to decisions (D2D) – just to name a few. The TDO team also helps companies to optimize their plant and process layouts while making the best use of people and capital. Companies seek TDO's assistance, but the Center also provides open-enrollment training programs and coordinates Lunch and Learn events.

TDO has three practitioners, each with over 20 years of experience in their respective fields of industrial, mechanical and electrical engineering. These experts also have strong backgrounds in lean manufacturing, quality systems, safety, and maintenance. With help from Lean Six Sigma (LSS) Master Black Belts and Black Belts who can teach, coach and advise on virtually any aspect of operational excellence, Central New York manufacturers can achieve operational excellence.

Within Central New York, TDO reaches manufacturers and engineering service providers through a variety of methods. In addition to searching NIST and national MEP network databases, TDO leverages relationships with economic development partners and gains visibility by participating in conferences and organizations. FuzeHub, New York State's statewide MEP Center, also shares information about Central New York companies that are seeking business or technical assistance.

TDO's success stories include Knowles Precision Devices of Cazenovia. Over the past two years, the manufacturer has reported nearly $17M in new and retained sales, $5M in cost savings, and $10M in new investments as a result of its ongoing relationship with TDO. The assistance provided to Knowles has included education and support that has been both technical and developmental in nature. TDO has also delivered TPM training and reviewed electrical schematics, written IoT code, and coached LSS project teams.

Currier Plastics is another Central New York company that has benefitted greatly by working with its regional MEP Center. In 2017-2018, the Auburn manufacturer reported over $1.75M in new investments and $200K in cost savings due to the assistance from TDO. Most of the services provided were in employee development, specifically operational excellence and improved quality systems. Today, the teams at Currier Plastics and TDO continue to work together to drive the company to the next phases of success.

Oneida Air Systems, another recipient of TDO's services, has reported $2M in new and retained sales, over $300K in cost savings, and nearly $600K in new investments. Like Knowles Precision Devices and Currier Plastics, the Syracuse manufacturer maintains an ongoing relationship with TDO in which Central New York's MEP Center provides regular coaching and advising to assist with process optimization, equipment efficiencies, and employee development.

TDO's aggregate results also demonstrate its achievements. In 2018, clients reported a combined total of $44M in new and retained sales, $30M in new investments, $8.5M in achieved cost savings, and 135 jobs created and retained. In the

Syracuse is known for the success of its college sports teams, but New York State's fifth-most populous city also has a winning tradition in manufacturing.

With TDO's assistance, Knowles Precision Devices of Cazenovia has made significant improvements in key performance indicators.

most recent quarter, TDO scored 100% on the NIST impact survey and is projected to score 90% or better for each of the next three quarters. This reflects the transformational work and deep relationships that the NY MEP Center has developed with companies.

To help manufacturers innovate, compete and grow, TDO leverages the expertise of its own practitioners or collaborates with other organizations with similar missions. Central New York's MEP Center can also connect clients with grant opportunities to offset the costs associated with its expert services. The TDO staff are passionate about driving positive changes for all of the companies they serve. Decisions and recommendations are made with care and TDO prizes its role as a trusted advisor.

For more information on TDO, visit tdo.org

James D'Agostino

James D'Agostino, TDO Senior Project Manager, delivers innovative solutions such as Lean Six Sigma, continuous improvement, and quality management.

John Currier

John Currier, president of Currier Plastics and TDO Board Member, worked with TDO's practitioners to provide the information for this article.

"TDO is a team of trusted advisors that helps manufacturers understand where they can go and how they can get there."

NY MEP Center for the Finger Lakes

NextCorps

NextCorps is the NY MEP center serving the Finger Lakes region, which includes Rochester. "We offer a broad range of services to companies that range from early-stage startups to mature companies looking to reinvent themselves," says NextCorps' president, James Senall. "MEP is one of our pillars, but we also do things that you normally wouldn't find at an MEP center," he adds. Examples include two technology incubators, the Luminate accelerator program, and the Hardware Scaleup (M-Corps) program, all of which are designed to assist startups.

A native of Western New York, Senall has worked for both well-established and early-stage firms. After earning an undergraduate degree in electrical engineering from the Rochester Institute of Technology, he joined AMP Inc. (which became Tyco Electronics Ltd.), where he worked in multiple manufacturing facilities on the east coast. Senall then earned an MBA from the University of Rochester and worked at several startups. One of these companies was a tenant at an incubator operated by High Tech Rochester (HTR), the former name for NextCorps.

Senall first connected with his local MEP center through an economic development organization called the Greater Rochester Enterprise, where he focused on developing the region's emerging business sectors. He also became involved with wind energy, solar power, and fuel cell companies—interests he still maintains. Senall has now led the Finger Lakes' MEP center for nearly a decade. NextCorps has a proven track record working with the region's small to medium-sized manufacturers, regularly completing more than 100 MEP projects a year. NextCorps is also heavily involved in the region's photonics industry cluster, as well as its significant food and agriculture cluster.

Over time, the organization's model has changed significantly. "We used to have a lot of experts in specific fields, so we'd try and promote those services," Senall explains. "Now we operate more as general business advisors with a broad network of resources that we can bring to bear." Because of this change, "consultants who once saw us as competitors now see as a resource," he continues. "We can even help companies to find consultants or find a way to reduce the cost of hiring one, by bringing funding to the table."

NextCorps has a regular staff of 16 employees. Annette Brenner, Mark Schrader, and Michael Sisson are full-time senior staff who, Senall says, "manage the bulk of the MEP project work" with local manufacturers. NextCorps also draws from a vetted network of more than 60 outside consultants, and partners with other NY MEP centers that can provide specific expertise.

Yet because of NextCorps' support for startups, this non-profit organization has its own unique capabilities. NextCorps operates two technology incubators with a total of 90,000 square feet. In addition to the Lennox Tech Enterprise Center facility in Henrietta, there's a new state-of-the-art facility on the sixth floor of Sibley Square in the heart of downtown Rochester. From this location, NextCorps also runs an accelerator program called Luminate, where optics, photonics, and imaging startups from around the world compete for admission into the six-month program, which includes significant cash investment. Between its traditional tech incubation program and the Luminate accelerator, NextCorps is currently working with more than 50 different startups.

"From an incubator admission standpoint, it's simple," Senall says. "We work with tech startups that have the potential to scale up." Coachability is also important. During incubation, startups develop their value proposition and business model, engage with initial customers and partners, gain access to a network of potential investors, and get expert advice from mentors that include lawyers and accountants. Entrepreneurs in residence (EIRs) also provide guidance and support. If a startup is product-based, then NextCorps can "open the whole MEP toolbox," Senall says, and even provide connections to contract manufacturers.

NextCorps also administers part of the New York State Energy Research and Development Authority's (NYSERDA) Manufacturing Corps (M-Corps) program, which it calls Hardware Scaleup, that aims to help cleantech startups overcome obstacles to launching pilots, fulfilling first orders, and getting new products to market. "M-Corps takes cleantech companies from prototyping to manufacturing," Senall explains. NYSERDA plans to offer up to $12 million to support cleantech startups and has committed $4 million to an initial M-Corps round.

nextcorps

The Incubator at Sibley Square promotes collaboration.

As the Finger Lakes' regional MEP center, NextCorps has had many reported successes with small to medium-sized manufacturers, including Markin Tubing. The Wyoming, New York company makes custom precision steel tubing for a variety of industries and has developed proprietary methods and techniques. When Markin anticipated a surge in sales for a particular product line, the company began updating its quality assurance process. Yet making these updates was taking longer than manufacturing the product itself. To reduce process loss and production downtime, Markin Tubing engaged NextCorps, which helped the company apply the 5S workplace organization principles of Sort, Set in Order, Shine, Standardize, and Sustain, along with visual controls. As a result, the tubing manufacturer reported $4,000,000 in increased or retained sales, $168,000 in cost savings, $340,000 in new investment, and eight new or retained jobs.

During FY2018, NextCorps reported engaging 224 manufacturing companies and completing 102 projects. As a result of those engagements, area manufacturers reported nearly $60 million in impact to their companies, including $18 million in new or retained revenue. The assistance also led to the creation or retention of 423 manufacturing jobs.

For more information on NextCorps, visit nextcorps.org

"Entrepreneurs in residence (EIRs) also provide guidance and support. If a startup is product-based, then NextCorps can "open the whole MEP toolbox," Senall says, and even provide connections to contract manufacturers."

James Senall

(Below) Double Helix, a 2018 Luminate winner, specializes in 3D, nano-scale imaging.

NY MEP Center for Long Island

The Manufacturing and Technology Resource Consortium (MTRC)

The Manufacturing and Technology Resource Consortium (MTRC) at Stony Brook University is the NY MEP center serving Long Island. "We are the only NY MEP center that is part of a university," says Dr. Imin Kao, MTRC's executive director, "so our model is different from the other regional centers." Located on the Stony Brook University campus, MTRC works with and through other university-based assets, some of which receive funding from Empire State Development's Division of Science, Technology and Innovation (NYSTAR). MTRC also partners with non-university assets on Long Island and beyond.

Importantly, MTRC supports biotechnology—Long Island's priority industry cluster. The center has an in-house biotech consultant and can provide connections to experts who are engaged in different stages of development. "Biotechnology is different from other types of manufacturing," Kao says. "The path to success is harder and longer." With expert assistance, however, biotech startups and small-to-medium sized companies can overcome these obstacles.

"MTRC is uniquely structured to work through our highly specialized program partners," Kao explains. "They have a wide range of expertise to cover a variety of manufacturing challenges." By maintaining a close relationship with state-of-the-art laboratories, specialists, and experts, the center can engage in many different types of manufacturing projects. The effectiveness of these partnerships is reflected in MTRC's portfolio of 140 companies with 254 projects since January 2017, when MTRC began operations.

Manufacturing and Technology Resource Consortium (MTRC)
AT STONY BROOK UNIVERSITY

MTRC's program partners include three NYSTAR-designated Centers for Advanced Technology (CATs) and two Centers of Excellence (COEs), all of which are based at Stony Brook University. The three CATS are the Center for Advanced Sensor Technologies or Sensor CAT, the Center for Biotechnology (CFB), and the Center for Integrated Electric Energy Systems (CIESS). The two COEs are the Center of Excellence in Wireless and Information Technology (CEWIT) and the Advanced Energy Research and Technology Center (AERTC).

Additional university-based assets include the Stony Brook Small Business Development Center (SBDC), the Stony Brook Center for Corporate Education (CCE), and the Strategic Partnership for Industrial Resurgence (SPIR). As Kao explains, SPIR is a mechanism for connecting faculty to industry. By providing smaller companies with intellectual capital for R&D, he says, SPIR provided transformational assistance to many smaller manufacturers during a sharp 1990s downturn in Long Island's aerospace industry. MTRC also works with and through the Stony Brook University incubator at Calverton and the Long Island High Tech Incubator. Working together, these university assets help serve as engines of economic development for Long Island.

Additional partners include the Composite Prototyping Center, Cold Spring Harbor Laboratory, Clean Energy Business Incubator Program (CEBIP), Brookhaven National Laboratory, the Long Island office of the Workforce Development Institute (WDI), the Long Island Food Council (LIFC), and educational institutions on Long Island. In conjunction with LIFC, for example, MTRC provides grant opportunities and no-cost consulting to food manufacturers.

As a NY MEP center, MTRC works with manufacturers in a variety of industries that want to expand their capabilities and create new jobs. To date, the center has awarded over $1.1M in matching grants to qualified Long Island companies that are in various stages of growth. MTRC has also established a user facility with prototyping equipment for design realization and assessment. There are two 3D printers, an Objet30 Prime and a Form 2, along with a scanner, a broad-spectrum laser cutter, and an industrial-scale water jet cutter.

To reach Long Island manufacturers that may need assistance, MTRC uses a combination of marketing and events. Each month, the center sponsors a "Coffee and Connect" breakfast to present MTRC programs and highlight specific partners. Each time, there's a different theme or focus, such as biotechnology, food and agriculture, or workforce development and training. Since MTRC started the "Coffee and Connect" initiative in November 2017, over 150 people have participated in these morning sessions and learned about resources available to their companies.

MTRC is NY MEP's newest center but has already built a loyal client base. Intelligent Product Solutions (IPS) of Hauppauge praises MTRC for helping the product design company find interns.

The 100,000 square foot CEWIT facility anchors Stony Brook University's 246-acre Research and Development Park.

Imin Kao

"MTRC helps us drive sales, grow our business, and offer a new array of services," says Mitchell Maiman, IPS' president. "As IPS begins offering a full range of both prototyping and finished manufactured goods to our clients, we expect to grow our business substantially on Long Island."

Joseph Ambrosio, president and CEO of Unique Electrical Solutions, is expanding an electrical vehicle installation business with help from his local MEP center. "The MTRC team has provided a forum for direct mentorship for our entire team," Ambrosio says. MTRC has also "created opportunities for us to develop additional business-to-business relationships through events, meetings, and symposia."

MTRC is driving economic growth, cost savings, process improvements, revenue generation, job creation, and job retention through its programs and partnerships. As of the end of 2018, the center had expended or committed over $1,596,000 in supplemental awards and allocated funds to support manufacturing companies on Long Island. As the center's message spreads, interest continues to grow. Between Q3 and Q4 2018, MTRC added 45 projects and 40 new company engagements.

"We would love to hear from more companies on Long Island and help them to succeed," Kao says. "The way we do that is through our partners."

For more information on MTRC, visit stonybrook.edu/mtrc

"As a NY MEP center, MTRC works with manufacturers in a variety of industries that want to expand their capabilities and create new jobs. To date, the center has awarded over $1.1M in matching grants to qualified Long Island companies that are in various stages of growth."

NY MEP Center for the Mid-Hudson Region

The Manufacturing and Technology Enterprise Center (MTEC)

The Manufacturing and Technology Enterprise Center (MTEC) is the NY MEP center serving the Mid-Hudson Valley. "We're the only center in the state with in-house product design and prototyping services," says Tom Phillips, MTEC's Executive Director. MTEC is also one of only two NY MEP centers that perform cybersecurity assessments. A focus on food and beverage manufacturing plus services that help manufacturers find professional and executive-level talent also make MTEC unique.

Phillips' own manufacturing experience underscores the valuable business and technical assistance that MTEC provides. A native of Sidney, New York, Phillips worked his way up the corporate ladder during a 30-year career at IBM. He started by delivering internal mail and succeeding at various first-line management positions, including stints in stockrooms and production flow. "You get a feel for a company that way," he says. "It was an interesting way to get started."

Later, Phillips led a semiconductor fabrication facility in Fishkill that ran 24/7 and had 500 employees. "It was a fab like GLOBALFOUNDRIES with cleanrooms, but not nearly as automated," he says. When Phillips retired from IBM in 1993, he was less than 50 years old. He played golf for a while, sold commercial insurance, and traveled extensively as a manufacturing consultant. He then joined MTEC (previously known as the Hudson Valley Technology Development Center, or HVTDC) as a field service consultant. When MTEC needed a new director, Phillips returned to a leadership role.

Today, MTEC is known for its efforts to find and engage manufacturers throughout the Hudson Valley. MTEC staff call and visit companies, attend events and seminars, and ask current clients about other local businesses that might need assistance. Telemarketing and email campaigns complement these efforts.

MANUFACTURING & TECHNOLOGY ENTERPRISE CENTER

MTEC's outreach even includes a special postcard-sized mailer that contains a 3D printed replica of an Amazon Echo Dot that the center will exchange for the real thing if the company accepts a meeting with MTEC staff.

When MTEC secures an appointment with a manufacturer, Phillips' team makes the most of the opportunity. "At the first meeting, we always send two people," he explains. "There's one to talk and one to listen." This investment in a "second set of ears" is all about "understanding what the problems are," he says. "We want to find out what their struggles are and what swthey need to fix so that we can help." MTEC can then leverage the technical expertise of its staff or, if necessary, engage an external technical resource consultant from its vast array of regional third-party partners.

Everton Henriques, the NY MEP solutions director for FuzeHub, also works as a regional technology specialist for MTEC. "If there is a problem with chemical disposal or wastewater systems, Everton can and will deliver," Phillips says. Phil VanOss, an MTEC senior project engineer, brings a strong knowledge of lean manufacturing and industrial engineering. Joe Adamcyk, a computer engineer, understands printed circuit board (PCB) design, embedded programming, and hardware design.

Bob Incerto, director of MTEC's Engineering Consulting Services (ECS) division, plays an especially important role. "The help that Bob provides includes electrical, mechanical, software and hardware, and computer systems." When a pharmaceutical company needed to meet new FDA requirements, Incerto helped them to organize and structure their data. In addition to established manufacturers, the ECS director works with inventors and entrepreneurs who need prototypes or design improvements.

MTEC's focus on food and beverage manufacturing also make this NY MEP center unique. Other centers provide training in food safety, though typically through outside consultants. MTEC, however, is adapting its core services to a growing industry. Lindsay Thompson, MTEC's food and beverage account manager, is a Good Manufacturing Practices (GMP) certified

MTEC helped introduce NYC organizations to Hudson Valley manufacturers.

professional and a Preventive Controls Qualified Individual (PCQI). She's also currently pursuing certification as a Lean Six Sigma Green Belt.

Phillips is proud of how MTEC's programming reaches manufacturers in different sizes and segments. For example, MTEC produces the Food and Beverage Corner, a digital publication that is delivered bimonthly and features regional companies with as few as five or less employees. MTEC also provides cybersecurity assessments, the first step in achieving NIST 800-171 compliance, which is a requirement for manufacturers in the defense supply chain. Jacob Ernst, MTEC's IT specialist and systems administrator, performs these cyber assessments.

MTEC's many success stories include projects with Altman Lighting, which reduced product defects and cycle times, and with Sono-Tek, a manufacturer of ultrasonic spraying systems that reduced lead times for its most popular products. MTEC has also helped Spectral Systems, maker of specialized optics for infrared applications, to decrease internal rejection rates. Stauber, a manufacturer of food and pharmaceutical ingredients, completed a large-scale facility upgrade with MTEC's assistance.

During FY2018, MTEC engaged 224 companies and completed 102 projects. The NY MEP center reported a total economic impact of $59.9 million with 423 created or retained jobs and $18 million in new or retained revenue for the companies it assisted. On a satisfaction scale of 1 to 10, MTEC clients rated the Center a 9.6. When MTEC entered 2019, nearly 130 projects were underway. What the data doesn't show, Philips adds, is that "we are on client's speed-dial and provide long-term engagement."

For more information on MTEC, visit mfgtec.org

"A focus on food and beverage manufacturing plus services that help manufacturers find professional and executive-level talent also make MTEC unique."

Tom Phillips

Mohawk Valley MEP Center

AIM helps manufacturers to solve workforce challenges.

Advanced Institute for Manufacturing (AIM)

The Advanced Institute for Manufacturing (AIM) is the NY MEP center serving the Mohawk Valley, which covers Oneida, Herkimer, Fulton, Montgomery, Schoharie, and Otsego Counties. "AIM is distinct because it's one of only two NY MEP centers that are located on SUNY campuses," says Cory Albrecht, AIM's director. Utica, where both AIM and the main campus of Mohawk Valley Community College (MVCC) are located, is also home to the thINCubator, a NYSTAR-funded Innovation Hot Spot. Together, AIM and MVCC offer unique workforce programs and have a strong focus on cybersecurity.

"We leverage the resources and the partnerships that we've established through MVCC," Albrecht explains. For example, he cites MVCC's Corporate and Community Education program, which offers non-credit courses, and the SUNY Apprenticeship Program, which is headquartered at MVCC and helps develop apprenticeships statewide, including in manufacturing industries. "Employers can increase the skill set of their workforce," Albrecht says of the apprenticeship program. "The educational or 'related instruction' component is grant-funded, and MVCC has partnered with several community colleges across the state."

MVCC, which is part of the State University of New York (SUNY) system, is a two-year school that's strong in science, technology, engineering, and math (STEM). MVCC's talented instructors are an important part of this strength. Albrecht regularly engages educators to learn how AIM can leverage their talents when they aren't teaching students. For example, coursework can be modified to provide non-credit training to local workers. Successes include programs in automation, maintenance and mechatronics, electrical training, welding certification, CNC machining, and 3D printing and prototyping. "Every program on campus can be turned into a non-credit program," Albrecht says.

aim
Advanced Institute for Manufacturing

At a time when many manufacturers are struggling to find skilled workers, AIM also works closely with the Mohawk Valley's two other community colleges: Herkimer County Community College (HCCC) and Fulton-Montgomery Community College (FMCC). "We have business development managers at these two schools," Albrecht says. For manufacturers, HCCC and FMCC have become local sources of information about how AIM can help. "The manufacturer feels that the local community college is being supportive of their needs," Albrecht says.

For startups, MVCC's thINCubator in Utica offers programming, events, a co-working space, and access to assets like Ryan Miller, the incubator's director. "AIM was born there," Albrecht says. "For three years I worked side by side with Ryan. He had startups coming in the door and would make referrals to me—and vice versa." The thINCubator has also served as the site of a Solutions Forum, the first in a series of events with FuzeHub that have included a cybersecurity train-the-trainer event, a B2B event, and a Workforce Solutions Forum. "It's been good for us," he says, "and it's been good for manufacturers in the region."

Albrecht's local roots make him an asset—and an advocate—for Mohawk Valley manufacturers. "I'm from here," he says. "I've had family members and friends work at some of the companies we help." A graduate of MVCC, Albrecht also attended SUNY IT (now SUNY Polytechnic Institute), where he earned a degree in Business and Public Management. In 2006, he became the business development manager for the Mohawk Valley Applied Corporation, which was then the MEP center for the region. Now in his 12th year with NY MEP, Albrecht notes that the region's MEP center has always been in Utica, which is near Rome, New York, home to the Air Force Research Laboratory (AFRL) Information Directorate.

When the state's Regional Economic Development Councils (REDCs) developed priority industry clusters, the Mohawk Valley prioritized cybersecurity in part because of AFRL's strength in this area. "They have 2,000 employees and a $2 billion annual budget," Albrecht explains. "Most of the work there is in cyber," he adds, "but it's also led to the creation of numerous software and hardware companies." After becoming a NY MEP center in January 2016, AIM hired a technical consultant with a background in cybersecurity. The center's first program was about cybersecurity for manufacturers.

Since then, AIM has delivered numerous cyber events and company assessments. "We've assisted more than 140 companies across the state," Albrecht notes. Most recently, AIM was awarded a defense-focused grant through Empire State Development, the state's economic development agency. The grant helps NYS defense manufacturers and suppliers achieve compliance with NIST 800-171, a publication from the National Institute of Standards and Technology that is designed to help organizations protect their information. "Compliance lets you retain and bid on new defense contracts," Albrecht says.

AIM also offers a full suite of quality management services. This includes support for meeting the latest versions of the ISO 9001 and AS9100 standards. In addition, AIM offers training in process improvement, which includes Lean, Six Sigma, process efficiency, and waste minimization. Strategic business services like recession planning, business planning, and programs in management and executive leadership also represent core offerings. AIM offers training in food safety for food and beverage processors, too, and can help companies comply with Occupational Safety and Health Administration requirements.

Case studies demonstrate how AIM is getting results. For example, Beechnut Nutrition, Montgomery County's largest manufacturer, asked AIM to help solve a workforce challenge after the company built a new facility near Amsterdam, New York. To address a skilled labor shortage, AIM delivered training in electrical maintenance and American Welding Society (AWS) certified welding instruction. "It was so successful," Albrecht says, "that Beechnut is using our program as a pilot to meet all of their future training needs."

Albrecht credits AIM's partnership with all of the Mohawk Valley region's community colleges for the project's success. He also compliments Beechnut's employees, who welcomed the training, and the company itself, which supported an "internal mentor" for hands-on training. Funding was provided by the Capital Region office of the Workforce Development Institute (WDI). "Beechnut could not be happier," Albrecht says.

The AIM center director also cites successes with Oriskany Manufacturing Technologies (OMT), a metal fabricator and tubing supplier. Mike Marusic, AIM's senior manufacturing consultant, has spent two days a week at OMT for the last three years. Marusic serves as OMT's quality management consultant and has helped the company build relationships with customers by reducing product returns and non-conformities. "We've helped them with their audits," Albrecht adds, "and with going from ISO 9001:2008 to ISO 900:2015."

In 2018, AIM won a Genesis Award, which recognizes educators and programs making a difference in the quality of life in the Mohawk Valley Region. The award reflected AIM's significant economic impact reported to NIST by companies the organization assisted. Although the MEP center wasn't fully staffed until late 2016, from November 2016 through June 2018, AIM helped companies generate new sales of $32.3 million and retained sales of $64.2 million, create or retain 1,391 jobs, make new investments totaling $44.6 million, and achieve $48.2 million in cost savings.

For more information on AIM, visit mvcc.edu/cced/aim.

MVCC's Rome Campus consists of the John D. Plumley Science and Technology Complex.

"From November 2016 through June 2018, AIM helped companies generate new sales of $32.3 million and retained sales of $64.2 million, create or retain 1,391 jobs, make new investments totaling $44.6 million, and achieve $48.2 million in cost savings."

Cory Albrecht

NY MEP Center for New York City

ITAC

ITAC is the NY MEP center serving New York City. "Our objective is to help companies grow their top and bottom lines," says Kinda Younes, ITAC's executive director. In addition to offering top-line services such as strategic marketing and new market expansion, ITAC provides bottom-line services that promote efficiency and process optimization. "Focusing on the bottom line is particularly important in New York City, where things are so expensive," she explains.

Younes, who is also a member of the New York City Regional Economic Development Council, understands the unique challenges faced by manufacturers in the city. "We have a lot of small companies here," she says. "The average size is under 13 employees." Moreover, many of these businesses are early-stage and still learning the basics of manufacturing. "We assist the younger ones with commercialization," she adds. "This creates revenue and jobs for both New York City and New York State."

Supporting new and established companies suits Younes' experience and education. A native of Lebanon who grew up in Montreal, she holds a Bachelor of Commerce degree from McGill University (Canada) and an MBA from INSEAD (France). Prior to joining ITAC, she was chief operating officer for RevolutionWear, a successful athletic wear startup. She also co-founded a marketing technology company after working in PepsiCo's Corporate Strategy Department, and has worked for Goldman Sachs in mergers and acquisitions.

At RevolutionWear, Younes confronted the challenge of finding U.S. manufacturers for her company's clothing line. That process sparked her interest in joining a mission-based organization advancing economic development. When ITAC's president retired four year ago, the center hired her. "ITAC has been around for over 30 years," she says, "and has a solid reputation as a go-to organization for manufacturers."

ITAC also takes pride in working closely with a strong network of state and local economic development partners. Locally, this includes the New York City Economic Development Corporation (NYCEDC), Evergreen in North Brooklyn, and the Southwest Brooklyn Industrial Development Corporation. ITAC also works with the Workforce Development Institute (WDI) to increase what Younes calls "the pipeline of manufacturing jobs." Last October, ITAC and WDI partnered with the city's Department of Small Business Services, Boyce Technologies, and the Long Island City Partnership to hold a sold-out Manufacturing Day event centered around apprenticeships.

ITAC's role in FutureWorks NYC, a NYCEDC initiative designed to build a 21st century production economy, is also an important part of its activities. Specifically, ITAC leads Ops21, a multi-faceted program under the Futureworks NYC umbrella that is focused on increasing manufacturers' awareness and adoption of new technologies, specifically advanced materials, digital manufacturing, and robotics. ITAC's Ops21 technical experts include Cornell Center for Materials Research; Rochester Institute of Technology's Center of Excellence in Advanced & Sustainable Manufacturing, with expertise in digital manufacturing; and New York University's Mechatronic, Robotics and Control Lab.

ITAC is also working with EWI, another world-class organization that Younes describes as "the Cleveland clinic of manufacturing." Over the past few months, New York City manufacturers attended awareness and advanced technology workshops on advanced materials, digital manufacturing, and robotics; some are now applying for grants to subsidize the cost of implementing those technologies on their shop floors. EWI's role is to conduct a deep-dive assessment to evaluate the current state of each local manufacturer's technology, identify goals and gaps, and outline a detailed technology roadmap for how to get there. In this case as well, NYCEDC will subsidize part of the associated costs.

Other ITAC initiatives include managing the Business Growth and Leadership Cohort at the Brooklyn Navy Yard for the third year in a row. This program aims to provide direct assistance to approximately ten companies per year, so that they can develop and implement high-impact growth plans. Participants are focused on scaling production, increasing market share, increasing business-to-business

itac
Delivering Results to NYC Manufacturers

ITAC collaborates with university-based resources to introduce advanced technologies to NYC manufacturers.

sales, and/or considerably growing their workforce in the months following their cohort participation.

Like other NY MEP centers, ITAC also offers training, coaching, consulting, and scale-up services to manufacturers. "We do a lot of lean/operational excellence," Younes says, "and also provide export assistance." ITAC also facilitates business-to-business connections between companies throughout the city. With assistance from a state grant, ITAC recently completed a broad survey about workforce needs, with the goal of improving the competitiveness of New York City manufacturers and eliminating barriers to skilled employment. ITAC will also be conducting market research about contract and fee-for-service manufacturing in 2019.

ITAC's successes span many different industries. For example, David G. Flatt, LTD specializes in exhibits, designer rentals, and retail designs. ITAC has completed a budgeting and forecasting project for the Queens company along with workflow analysis, process improvement, and communications-related projects. "It's been a multi-year engagement," Younes says. "In fact, our ideal model is to start with one project and then do more under our Professional Business Advisory program, as we've done here."

ITAC has also helped a family-owned, Brooklyn-based food business to develop a comprehensive transportation management system designed to reduce waste and improve both customer relationships and national deliveries. For another processor and distributor of ethnic foods looking to scale, ITAC conducted an Operations Space Needs Analysis to identify current bottlenecks, and provided recommendations on plant layout, equipment positioning, material handling, and material storage strategies.

For more information on New York MEP, visit itac.nyc

A final example involves a manufacturer of specialty appliances that ITAC has worked with for over a decade on a wide range of productivity and training initiatives. Most recently, in an effort to increase employee impact and contribution, ITAC helped develop a deeper, more comprehensive training protocol that included advanced customer service, supervisory management, and lean enterprise. The company-wide initiative has already proven to be a very positive, culture-changing experience for many of its employees.

ITAC's metrics demonstrate the value that this NY MEP center is providing. For the last four quarters, clients have reported to an independent third party over $121 million in total impact to their companies as a result of ITAC's assistance. This includes over $32 million in new sales, $22 million in retained sales, $48 million in new investments, and $18 million in cost savings. Importantly, ITAC has also helped companies to create or retain 1,138 jobs.

ITAC's Ops21 experts help bring innovative technologies to busy manufacturers.

"ITAC leads Ops21, a multi-faceted program under the Futureworks NYC umbrella that is focused on increasing manufacturers' awareness and adoption of new technologies, specifically advanced materials, digital manufacturing, and robotics."

Kinda Younes

NY MEP Center for the North Country

CITEC Business Solutions

CITEC Business Solutions is the NY MEP center serving the North Country, a vast region that borders Canada and includes the cities of Plattsburgh, Potsdam, Ogdensburg, and Watertown. "The North Country has twenty percent of the state's geography but only two percent of the population," says CITEC's executive director, John Zielinski. "Yet there are pockets of population that naturally draw pockets of industry." CITEC staff need to drive many miles during the course of a year, he says, but "our business advisors, business development director, and marketing director do a fantastic job staying connected to our clients and partners."

A North Country native, Zielinski understands what it takes to reach manufacturers in the region. "The engagement is on a personal level," he says. "We're not a metro area, despite the proximity of Montreal on the eastern side of the North Country." Business development is "extremely relational," he adds, and isn't about selling a product or a service. Honesty, integrity, and quality are important parts of doing business here. Yet the region isn't monolithic. Watertown and Fort Drum are in the west, Plattsburgh with its State University of New York (SUNY) school is in the east, and in-between are the communities of Messina, Malone, and Potsdam (an area that includes four colleges).

"It's an exciting time to work in the North Country," Zielinski says. "Growth in the Plattsburgh area on the eastern edge of the region is fueled by strong ties to Canada, despite political uncertainty. On the other end of the region in Watertown, the largest single-site employer in Upstate New York, Fort Drum, fuels economic activity. Another border town, Ogdensburg, also hosts a good deal of manufacturing growth. Therefore, although running manufacturing enterprises in remote rural areas presents special challenges, we see a lot of opportunity and a lot of success."

Zielinski's career beyond the North Country is an asset for the region's manufacturers. During a lengthy tenure with General Electric that began in Burlington, Massachusetts, he worked as a project manager, cost accountant, and in automated systems. The Plattsburgh native also worked in GE Aerospace (formerly GE Aircraft Engines) until a recession struck and the company laid off a third of its workforce. That's when Zielinski started his own business near Concord, New Hampshire and landed clients that included Fortune 500 firms and small companies that needed niche software and systems solutions.

CITEC provides training and support to companies like Ansen Corporation, which makes printed circuit board (PCB) assemblies.

Entrepreneurship required extensive travel, however, and Zielinski eventually returned to the North Country to work for Bombardier's transportation division in Plattsburgh, where the Montreal-based company builds trains. He served as the business process manager for Bombardier's manufacturing systems, was the liaison between operations and technical systems, and received training in Lean and Six Sigma. When Bombardier's sales slowed in 2008, he applied his interest in Lean to a new industry—healthcare—and earned a Master of Health Administration in business management degree with a healthcare track.

Today, as CITEC's executive director, Zielinski leads a team of solutions providers who are especially adept at process improvement and continuous improvement. "We embrace Lean and Six Sigma," he says. "We have a unique ability to use these tools to help our clients and to work on projects with them. We

CITEC Business Solutions

CITEC provides instruction in lean management, including value stream mapping.

don't want to be the consultant who just gives you the answer or report and walks away," he emphasizes, "but the consultant who facilitates your ability to find the answer. We want you to know what you'll need to do once we leave."

CITEC's training and consulting services focus on continuous improvement, technical support, safety, business development, human resources, leadership development, marketing, and executive services. "We've had an uptick of interest lately in leadership development, ensuring that employers, managers, and supervisors understand how to communicate through tough situations, through change management, or with difficult employees." Zielinski explains, "If you can engage your employees better and support them better, they'll be more productive."

The North Country's MEP center provides most of this training itself, but sometimes partners with other NY MEP centers that can deliver specific technical services. Along with Business Development Director Steve Lockwood, Business Advisors Sharon Van Auken, George Mauch, and Kate Chepeleff deliver many of CITEC's services. Aviva Gold, who handles marketing and communications, also plays an important role; in a region like the North Country, outreach needs to be strategic.

Several success stories demonstrate how CITEC helps small-to-medium sized manufacturers. Kate Chepeleff, who holds a Six Sigma black belt, analyzed a molding process for General Composites, a contract manufacturer of high-end composite components for aerospace, automotive, medical, and military applications. Using the Define, Measure, Analyze, Improve and Control (DMAIC) process, she facilitated the process improvement project at the Willsboro manufacturer that resulted in a 23 percent yield increase.

Before the project, the company also struggled to make on-time deliveries for one of its customers. Afterwards, the manufacturer met all of its delivery times. Stoppages decreased to zero and the company exceeded its goal of 10,000 production pieces per week. Today, General Composites is working towards a stretch goal of 20,000 weekly pieces.

Essex Pallet and Pellet provides another case study. The Keesville company had completed a revenue throughput analysis to understand bottlenecks. This led to the development of a new marketing plan, efficiency improvements through Lean analysis and training, and a plant redesign. The results include $400,000 in news sales, $15,000 in retained sales, and $100,000 in cost savings. The company has also invested $75,000 in new lift stations and a ventilation system to improve worker ergonomics and safety. In a town of just 1,750 people, creating four jobs and retaining twelve positions is "a big deal," Zielinski explains.

From Q4 2017 to Q3 2018, an independent third-party surveyor found that CITEC helped North Country manufacturers generate new sales of $34.4 million and retained sales of $67 million, realize $4.4 million in cost savings, and make $35 million worth of new investments in their businesses. CITEC's projects resulted in the creation or retention of 1,003 manufacturing jobs during that time period.

For more information on CITEC visit citec.org

John Zielinski

"CITEC's training and consulting services focus on continuous improvement, technical support, safety, business development, human resources, leadership development, marketing, and executive services."

NY MEP Center for the Southern Tier

The Alliance for Manufacturing & Technology (AM&T)

The Alliance for Manufacturing & Technology (AM&T) is the NY MEP center serving the Southern Tier. "We are a unique resource for manufacturers seeking to increase sales, streamline operations, achieve certifications, reduce costs, create jobs, and prosper," says Carol Miller, AM&T's Executive Director. "We use a comprehensive, holistic improvement approach that considers all of the angles and influences to create significant, long-lasting transformation."

Miller, who was named AM&T's Executive Director in January 2019, understands the importance of business transformation. A native of Endicott, New York, she served as an AM&T principal consultant and business partner to regional manufacturing companies for 15 years. Previously, she worked for the New Jersey Manufacturing Extension Partnership, and for the NY MEP center on Long Island. "I was in the MEP system for 23 years prior to becoming AM&T's Executive Director," she says. "I've seen the MEP system grow and change over the years, while consistently focusing on its mission and delivering economic impact."

During her downstate career, Miller also worked in manufacturing operations management for Raytheon and Grumman Aerospace (now Northrop Grumman), as well as in operations for smaller manufacturers. Raytheon's Long Island plant closing made a strong impression on this Southern Tier native, who remembers the heyday of employers like IBM.

Alliance for Manufacturing & Technology

Miller's father worked for IBM, and her grandfather worked for another prominent local company, Endicott Johnson Shoes.

Ultimately, Raytheon's Long Island plant closing is what brought her to MEP, a network of centers located in all 50 states and Puerto Rico. "The MEP system has provided a really valuable service to the manufacturing community," she says. "It was the early 1990s when I joined, and it's a lot of what made me who I am today. I'm a huge proponent of the system and that's why I've stayed in it." As AM&T's executive director, she's eager to find, engage, and support more Southern Tier manufacturers.

> **"We are business advisors who have built a reputation for understanding and meeting manufacturers' needs with expert solutions."**

Finding manufacturers who need assistance is typically the job of a business developer, an open position that Miller plans to fill in 2019. Yet that's not stopping this executive director from meeting new companies in the meantime. Along with other AM&T staff, Miller attends economic development sessions such as breakfast meetings and chamber of commerce networking events. She also posts regularly on LinkedIn, the premier social media channel for business professionals.

Engaging manufacturers means building trust and acquiring knowledge. "You have to build a relationship first," Miller says, adding that "some companies are hesitant to expose their business situation and discuss their needs. As an owner or leader, it can be very personal." Once trust is established, AM&T works hard to understand the company's individual needs. Some of the assistance that AM&T provides is "targeted work," she says, "but dramatic change and growth are realized by the combination of several initiatives across the whole value chain."

In addition to business assessments and strategic planning, AM&T supports leadership development, supervisory training, and sales and marketing growth. The center also provides training in Lean Six Sigma and ISO Quality Systems. "We are extremely effective with these continuous improvement services," Miller says. From problem solving and project management to cyber security and grant assistance, AM&T offers a range of expertise. The center also plans to provide assistance with workforce development, product innovation, and product development.

AM&T's highly-skilled staff combines industry knowledge with extensive consulting, training, and coaching experience. "We are business advisors who have built a reputation for understanding and meeting manufacturers' needs with expert solutions," Miller says. The center also works with trusted third parties such as manufacturing consultants. For

AM&T provides business assessments, strategic planning, supervisory training, and leadership development.

cybersecurity assessments, AM&T partners with the Advanced Institute for Manufacturing (AIM), which is the MEP Center serving the Mohawk Valley.

Under Miller's leadership, AM&T is committed to strengthening relationships with NYSTAR-funded assets such as the Centers for Advanced Technology (CATs), Centers of Excellence (COEs), and various business incubators. Advanced transportation products, components, and system controls remain the region's priority industry cluster. The Southern Tier also has the state's second highest level of defense spending; Long Island is the first. Hemp processing is growing, and represents an area where Miller sees possibilities.

AM&T's success stories include many long-term relationships. Buckingham Manufacturing Co., Inc., a leading maker of safety equipment, credits the center for supporting the company's continued growth. Trayer Products, Inc., which serves the heavy equipment industry, also values AM&T assistance. Norwich Pharma found a leadership trainer and a grant through AM&T. Crowley Fabricating & Machining Co., Inc. recommends AM&T to other local manufacturers that are seeking assistance.

During 2018, AM&T helped Southern Tier companies achieve $17.7 million in new sales and $79.6 million in retained sales. The center's work also helped generate $3.6 million in new investments and over $732,000 in cost savings for manufacturers. In a region that still remembers the loss of major employers like IBM and Endicott Johnson Shoes, AM&T has helped to create and retain 607 jobs.

For more information on AM&T visit amt-mep.org

Carol Miller

AM&T can connect university resources like the Cornell Center for Materials Research (CCMR) to regional manufacturers.

The Southern Tier has New York State's second highest level of defense spendng and is a hub for the transportation industry.

NY MEP Center for Western NY

Insyte Consulting

Insyte Consulting is the NY MEP center serving Western New York, a five-county region that includes Buffalo. "We are one of the largest MEP centers in the state," says Insyte President Ben Rand, "and have helped our clients achieve more than $2.5 billion of economic impact since 2000." Today, most of Insyte's 11-member staff support small-to-medium sized manufacturers. Yet Insyte also works with startups and provides what Rand calls "an unusual capability on the technology front."

Rand, who holds an MBA from The Wharton School at the University of Pennsylvania, compares Inyste to a former employer—Deloitte & Touche. When Rand moved to Buffalo in 2002 to run Sefar Filtration, "I hired Insyte," he says, adding that "we used them a lot." Insyte had the same knowledge as Deloitte, he recalls, but with pricing that was much more affordable.

When Insyte's long-time president retired, Rand decided to join the Insyte team. He's now in his twelfth year of service. He's remained with the MEP system because he feels that "we're giving something back" and is motivated to help the area's manufacturing community.

Meeting the needs of companies across Western New York, a region that includes the state's second largest city, can pose challenges. "It's hard to staff for all of the needs that [our clients] have," Rand says. In addition to full-time employees, Insyte relies upon a network of trusted consulting partners. By establishing firm contractual arrangements, scoping work correctly, and monitoring progress closely, Insyte can serve as what Rand calls a "general contractor" for projects.

Before entering into a project, Insyte takes the time to build trust and understand the client's needs. "You have to earn the right to have that discussion," Rand says. "The company wants to know that you understand them." The model that Insyte's president describes isn't about "pushing" a specific service such as Lean training. Rather, it's about "pulling" information from each client company about its biggest challenges and developing company-specific solutions.

Insyte also helps manufacturers through its partnership with Buffalo Manufacturing Works (BMW), a collaboration between leading industry, research, and academic partners. BMW's operating partner, known as EWI, provides capabilities in metal additive manufacturing, automation, and materials characterization. Together, Insyte and its BMW partners have developed a product called technology road mapping.

"With technology road mapping," Rand says, "we can work with a small manufacturer to identify more than just opportunities for marketing and sales or process improvements. We can also look at technology." This holistic approach includes implementation, which Rand says is "a big deal because if you're small, it's hard to keep up." To his knowledge, there isn't another MEP center with a technology capability like this. "It will become the gold standard," he predicts.

Insyte provides a different type of assistance to startups. Jack McGowan, Insyte project manager, is the executive director for both the Western New York Venture Association and its Buffalo Angels group. "The work that Jack does with startups is about helping grow future manufacturers to create the jobs of tomorrow," Rand says. Insyte also manages the Western New York Business Development Fund (WNY BDF), which provides seed capital.

From 2004 to 2014, the WNY BDF invested $1.2 million in seed money with local firms. Athenex Pharmacueticals, a Buffalo-based developer of innovative cancer therapies, received some of this funding before going public. The company was valued at $600 million, Rand recalls, allowing the fund's partners to recoup all of their investments through WNY BDF – and then some. The traditional MEP services that Insyte provides underscore the value that the center delivers. For example, Boston Valley Terra Cotta (BVTC), a manufacturer of architectural components for new and renovated buildings, wanted to reduce defects in its

Insyte consulting

Insyte's success stories include BVTC, a manufacturer of architectural components.

Insyte helped ADM to develop its own product, an aluminum "bridge in a box".

products. BVTC engaged Insyte for a Six Sigma project and learned that the way workers were orienting terra cotta into the kiln inhibited proper airflow and drying. By modifying this orientation, BVTC reduced defects by 85 percent, increased throughput by 60 percent, and increased sales by $2.5 million.

Insyte Consulting also helped American Douglas Metals (ADM), a contract manufacturer that wanted to develop its own product. ADM had designed an extruded aluminum "bridge in the box," Rand recalls, but needed assistance with marketing, pricing, packaging, and distribution. Insyte worked with ADM to address these challenges and helped the company add a product of its own to its portfolio of contract manufacturing capabilities.

The $2.5 billion in impacts that Insyte has reported since 2000 aren't the only metric that Ben Rand is proud of. From 2012 and 2017, Insyte had the highest return per federal dollar invested of any MEP center in the country. Given the number of Western New Yorkers who work in direct manufacturing, Rand adds, Insyte's work since 2000 has helped save 20 percent of the region's current manufacturing jobs.

For more information on Insyte, visit insyteconsulting.com

Ben Rand

"The company wants to know that you understand them." The model that Insyte's president describes isn't about "pushing" a specific service such as Lean training. Rather, it's about "pulling" information from each client company about its biggest challenges and developing company-specific solutions."

Statewide NY MEP Center

FuzeHub

FuzeHub plays a unique, statewide role in the New York Manufacturing Extension Partnership: It guides companies through the state's robust network of manufacturing and technical assistance resources. At FuzeHub's core is its Solutions Team, manufacturing and business specialists that work one-on-one with companies to analyze their specific needs and opportunities. "Whether a company submits a 'request' on our website or signs up for one of our Solutions Forums, FuzeHub's engagement with manufacturers is expedited, hands-on, and highly effective in connecting them to the best solution for their manufacturing and innovation needs," says Executive Director Elena Garuc.

In many cases, FuzeHub is a company's first stop in accessing the services of one of the regional NY MEP centers featured earlier in this publication. FuzeHub's Solutions Team is also deeply knowledgeable about New York State's broader innovation ecosystem, which includes dozens of leading university R&D centers. Many of them are state-designated Centers of Excellence and Centers for Advanced Technology and work hand-in-hand with companies on product and process innovations, in technology areas ranging from sensors to nanoelectronics to advanced materials to biotechnology to big data to additive and digital manufacturing. FuzeHub staff are knowledgeable gateways to this vast set of technology, research, engineering, and equipment assets.

FuzeHub's Jeff Lawrence Innovation Fund is a popular resource for manufacturers and start-up companies seeking to advance their products and technologies. The Innovation Fund supports a set of activities designed to spur technology development and commercialization across New York State. To date, through the Jeff Lawrence Innovation Fund, FuzeHub has awarded 43 Manufacturing Grants totaling $2.5 million to non-profit organizations to support projects in which small manufacturers benefit from innovation assistance they need to grow and create jobs. It has also held two Commercialization Competitions (with a third scheduled for November 2019) resulting in $50,000 awards to 12 companies. Julianne Clouthier, FuzeHub's industry engagement manager, said, "It's exciting to see what companies have been able to achieve with their awards, whether it's refining a product to meet new market demand or integrating Industry 4.0 technologies into their operations to gain a competitive edge."

FuzeHub's unique role also includes developing additional NY MEP programs and services to meet the evolving needs of the state's small and mid-sized manufacturers. For example, many such manufacturers are facing new cybersecurity requirements from their clients, especially in the defense supply chain; so FuzeHub developed a grant program that helps companies access the cybersecurity expertise of AIM, the NY MEP center serving the Mohawk Valley. Also, recently FuzeHub began providing cleantech hardware startups with Build4Scale training, a new curriculum developed by the Department of Energy to address startups' obstacles in design for manufacturability and related hurdles in bringing their new products to market.

FuzeHub works daily to raise awareness of NY MEP and New York State's larger innovation infrastructure and to increase industry utilization of all of these resources. FuzeHub's marketing team produces an award-winning electronic newsletter, FuzeNews, which provides readers statewide with information on manufacturing, technology, economic development, and other highlights of the New York State innovation ecosystem. FuzeHub publishes and maintains a series of Resource Reports, as well as an "Ask an Expert" blog series, that go into greater detail about the expertise companies can leverage in New York. Other blogs,

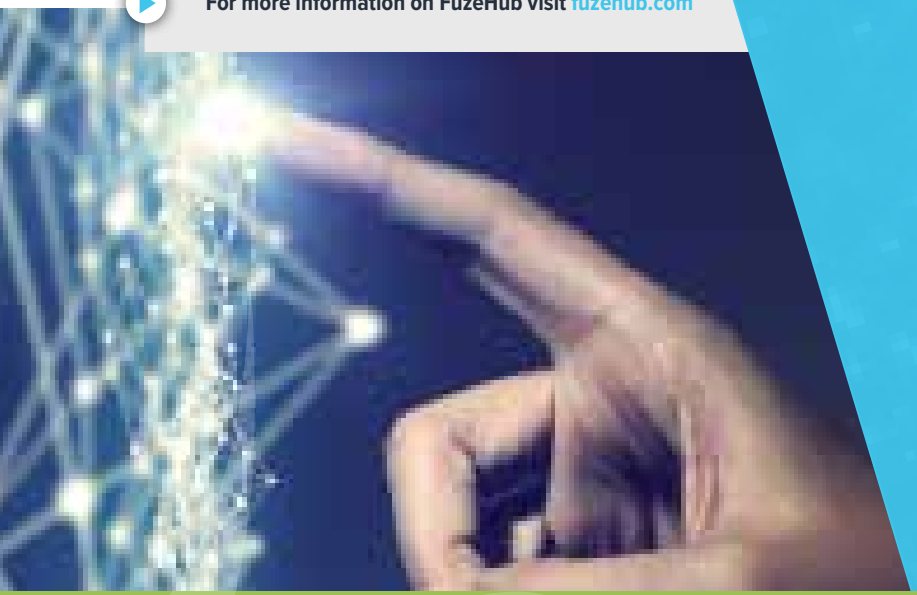
Elena Garuc

webinars, and publications regularly inform manufacturers of local, regional, and statewide development, innovation, and educational opportunities. FuzeHub works to introduce the manufacturing community to programs, events, and other resources that will support their businesses' professional development and enable them to become more competitive.

New York State stands out as a leader in terms of investing in the innovation economy, and FuzeHub plays a critical role in ensuring that industry benefits from those investments.

For more information on FuzeHub visit fuzehub.com

"FuzeHub's unique role also includes developing new NY MEP programs and services to meet the evolving needs of the state's small and mid-sized manufacturers."



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