

WINTER 2010

Helping New Jersey Manufacture Success

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New Jersey Manufacturing Extension Program (NJMEP)

3rd Annual Event

STATE-OF-THE-STATE MANUFACTUR NG









This exclusive event only for manufacturers, STEM firms and Legislators encourages collaboration and partnerships, providing a forum to discuss the issues most important in the industry.









Monday, March 25, 2019

The Trenton War Memorial The George Washington Ballroom 1 Memorial Drive, Trenton, NJ 08608 8:00 AM to 2:00 PM Made In New Jersey Showcase

or

Friday, March 29, 2018

County College of Morris (CCM) Davidson Rooms in the Student Community Center 214 Center Grove Road, Randolph, NJ 07869 8:00 AM to 2:00 PM

Apprenticeships & Workforce Development Showcase



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Welcome to the NJMEP Winter edition of Manufacturing Matters.



Last year was an extremely busy year and we made some solid progress:

- 100% Bi-Partisan Support from our Federal Delegation for NIST-MEP & a \$140 million National Budget
- The continuation of a Bi-Partisan NJ Manufacturing Caucus led by Senators Vin Gopal & Steven Oroho giving Manufacturing/STEM a much-needed voice
- The creation of a NJ Manufacturing Policy Team led by NJ-EDA & NJMEP w/ NJ-DOL, NJ-BAC, NJ-DOE, NJ-DEP, and Others Participating
- · Governor Murphy's focus on Innovation, STEM/IT, Workforce Development, & Apprenticeships
- The passing of Bond Issue to expand CTE Schools, County Colleges, and (maybe) NJMEP's Pro-Action **Education Network**
- Hosting the #1 MEP Center in the nation in NJMEP
- Returning NJMEP to the Annual State Budget in support of Apprenticeships

Our progress continues into 2019, as we launched the Educational Resource Directory in January in an effort to support manufacturers with the critical resources needed to train their employees in New Jersey. Until now, New Jersey has not had a single source at its disposal which provides location reference information to assist manufacturers with the training of their employees. However, state, county and even local governments have their own resources (as do private entities), and NJMEP seeks to fill the need for New Jersey manufacturers with this Directory.

Most recently, NJMEP was awarded \$590,000 from the State through the New Jersey Department of Labor and Workforce Development (NJLWD) Growing Apprenticeships in New Sectors (GAINS) grant to start and support the Pro-Action Education NetworkTM Apprenticeship Program. We are looking forward to additional work that will allow us to top \$2 million in Apprenticeship spending over the next three years.

We continue to focus on the dynamic challenges facing New Jersey manufacturers.

NJMEP will be in Washington DC the last week in February to meet with our Federal Delegation to discuss how they can 'help our industry'. The support we will be sharing with them is in the form of a petition with an updated letter that is created by our Advisory Boards.

We will also reinforce the important role NIST-MEP and our Program has played in advancing the New Jersey and U.S. manufacturing/supply chain sectors. This means that if a manufacturer or a supply chain company needs help with a project, staff training, certifications, best-practices, product/process innovation, troubleshooting, or wants to grow into new markets, we can help.

In order for us to continue to make a positive impact, we are asking you to help us continue to spread our message and support us by signing the petition.

Please don't forget to register for the upcoming NJMEP State-of-the-State Manufacturing Summit. This exclusive event is for Manufacturers, STEM Firms and Elected State Officials only, and is a forum to discuss the issues most important in the industry, including:

- One of the Highest Corporate Tax Rate in the country, and (2) increases in 2018
- NJ receives only 51 cents back on every dollar sent to the Federal Government
- Continuation of State Pension short-falls that curtails investment into other Sectors
- Energy Concerns that include a Nuclear Energy Subsidy and a CO2 'Cap & Trade' Regional program
- \$15 Minimum Wage Increase Plan
- Storm water Utility Tax, Expansion of Family & Sick Leave offerings, and limiting of Non-Compete Agreements Now, more than ever, it is time for your voice to be heard. Please register as Elected State Officials will be present to hear your concerns, and they will update us on the bills they are working on behalf of manufactures. This year, event enhancements include:
 - 'Made in New Jersey' Showcase (Trenton): Exhibitors will have the opportunity to meet with legislators, top state policymakers, and other manufacturers to talk about their products and experiences as a manufacturer in New Jersey.
 - 'Workforce Development and Apprenticeship' Showcase (County College of Morris): Manufacturers can meet with Community Colleges and Industry schools to learn about employee training opportunities.

Hope to see you there!

Peter H. Okun Director of Marketing & Public Relations, NJMEP













Thirty Year Challenge: How Zero Surge Inc. Thrives As A NJ Small Manufacturer

By Jim Minadeo, President Zero Surge Inc.

t was 1989 and a retired Electrical Engineer from RCA was consulting for a large consumer electronics company. They were having problems with their computer networks failing at random times for unknown reasons. Rudy Harford deduced that the problems were caused by electrical surges and examined how surge protectors were failing. After finding that all surge protection was based on using a sacrificial component called a metal oxide varistor (MOV), he decided to create a better mousetrap. By March 31, 1989, Zero Surge Inc. was officially born providing surge protection that was superior to all other methods and still holds true today.



Zero Surge still makes its products in its Frenchtown, NJ facility. The technology has since been adopted by two other companies and spawned many lessor imitations. But the core technology has been proven effective with zero reports of fires or surge failures. We still hear from customers who have their original ZS model protecting the same electronics for 20+ yearsa testament to the robust design Rudy created 30 years ago.

Being a small company, we face many challenges. Major costs include UL safety testing, ordering custom parts that require long lead times, and competing with larger companies in advertising spending. There are 30+ companies telling consumers that MOVs are safe and effective and we must educate about MOV's inability to protect today's electronics.

In 2014, Rudy retired and sold Zero Surge to Jim Minadeo. Being a first time owner, Jim had to learn the industry and Zero Surge's history first. Then, with his team, plan a new course that would move Zero Surge into the future. Besides updating the

website, producing videos, and attending trade shows to meet customers, we needed to figure some cost-effective ways to obtain new customers. One of the first steps was contacting the New Jersey Manufacturing Extension Program (NJMEP) to learn about their programs. That led

us to joining a regional power quality group, NJ Business and Industry Association, Hunterdon Chamber of Commerce, and Hack Hunterdon.



Working with

these organizations and initiatives put Zero Surge in front of more people than traditional advertising could. The people that run each group have a vested interest in helping manufactures. Don't be shy about volunteering to speak, demonstrate, or join a committee. For example, being part of panel discussions at NJMEP events and speaking at Legislative Manufacturing Caucus hearings, allowed their leaders to learn more about Zero Surge, and have helped us by making introductions to new customers. Also, by joining the Hack Hunterdon committee, we have cultivated relationships with potential customers and industry partners locally. Many of these organizations, like the NJMEP, have workforce development

Advertising is a numbers game and small businesses can't afford to compete for attention like larger companies. We have two target challenges when it comes to advertising:

programs.

- 1. Scope Everyone has sensitive electronics that need surge protection.
- 2. Type We have business and residential customers.

By making a product that is universally needed but more expensive than the traditional alternative, we must go where there is "pain" or an exclusive need. For residential customers, those with the most to lose are audiophiles. The audiophile has invested time and money on the perfect system – replacing

we can target these groups of customers in a cost-effective way.

it is a hardship. Another group, those

with ungrounded homes, has also proven

homes built before 1960 have ungrounded

the only one that works and is safe for this

application. By using online advertising,

to be adopters of our technology. Most

receptacles. Zero Surge's technology is

For business customers, the challenge is to not chase after each industry that finds us useful. We started by looking at our top customers to see who else in their industry would benefit. Military, schools, hospitals, and manufacturing customers use our products too, but we chose to focus on the retail industry for expanding our customer reach. Since most point of sale (POS) equipment is now a touch screen computer, they are sensitive to electrical surges. Having the POS equipment go down can be very costly to a company. With success at large restaurant

chains and automotive service centers, we use that success as leverage for selling to other companies. This has led us to other adjacent industries like the digital sign market.

To summarize the lessons, we have learned:

- Network and cultivate connections. The next customer may come from your connection's contact list.
- Join local trade/business organizations. Be active and participate.
- Focus advertising dollars on a few key customer bases. You can't outspend the big companies!
- Use social media it's free!
 LinkedIn, Twitter, Facebook,
 YouTube, et al. are free and give
 you a direct line to speak with
 customers and send out timely
 information.
- Offer personal customer service. Get to know their needs.
- Be proud to be a "Made in NJ" manufacturer through NJMEP!

Jim Minadeo is the President of Zero Surge Inc., manufacturing power quality filters that are used for surge protection of sensitive electronics.

www.zerosurge.com



County College of Morris Breaks Ground for Advanced Manufacturing & Engineering Center

ounty College of Morris (CCM) has broken ground on a project that will help expand and diversify the State's economic base, and help attract a stronger base for manufacturers.

CCM held a groundbreaking ceremony for the construction of a 30,000-squarefoot engineering and manufacturing building in Randolph, New Jersey.

Approximately 200 guests gathered to celebrate the plans for the Advanced Manufacturing and Engineering Center designed to address employment needs and growing industry demands. The 31,500-square-foot facility is expected to open spring 2020.

The Advanced Manufacturing and Engineering Center will feature the latest technology and equipment to prepare the workforce of the future, provide current employees with cutting-edge training and offer faculty, students and industry the opportunity to work collaboratively on solutions and new developments. Facilities will be available for corporate demonstration purposes, shared training activities, meetings and events that connect the college to its workforce partners more than ever before.

Included in the program were CCM President Tony Iacona, Assemblyman



Anthony Bucco (Legislative Manufacturing Caucus), Assemblywoman Betty-Lou DeCroce (Legislative Manufacturing Caucus), New Jersey Commissioner of Labor and Workforce Development Robert Asaro-Angelo, Deputy Secretary of State Higher Education Diana Gonzalez, and Morris County Chamber of Commerce President Meghan Hunscher.

"Today's groundbreaking serves as a reminder of how important manufacturing is, not only to our immediate area, but to New Jersey as a whole," said Assemblyman Anthony Bucco. "Together, we will continue to develop new and innovative technology and manufacturing systems that will help stimulate and grow our economy and pave the way for our future generations."

Tony Iacona credited the partnerships between the business, education, and legislative communities for their strong advocacy. New Jersey Manufacturing Extension Program (NJMEP) was recognized by Tony Iacona, Assemblyman Bucco and Robert Asaro-Angelo for their work and advocacy to help more than 11,000 Manufacturers/STEM firms in New Jersey to achieve manufacturing excellence across the state; by introducing programs such as apprenticeships, their work on the Department of Labor and Workforce Development Advanced Manufacturing and Transportation, Logistics and Distribution Industry Partnerships, State-of the-State Manufacturing Summit held in Trenton and at CCM, and National Manufacturing Day.

Complimentary Downloadables

NJMEP offers complimentary downloadables for New Jersey manufacturers.

Get yours at www.njmep.org/complimentary-downloadables/



Manufacturing Talent: The Future of Apprenticeships

tudents, parents, teachers and school counselors have begun to rethink career counseling. For years the standard line was that students had to go on to college in order to be successful.

That thinking has led us down the road of poor college graduation rates and high student-loan debt. It's time to take a serious look at the results of a student's career assessment and examine the variety of pathways that exist within an occupation. Students should make informed decisions about what they want to do and what meaningful education and experiences they will need in order to get where they want to go.

One option for many occupations is the Apprenticeship model. This employer-driven program combines on-the-job learning with related technical instruction. Apprenticeship builds employment skills and establishes higher levels of employment and wages. Apprenticeship is an "earn and learn" model. Many employers today are utilizing this model to attract employees, invest in the apprentice's development with the hope of retaining and growing them to be future leaders in their organization.

There are 5 components of a Registered Apprenticeship:

- Business involvement –
 Employers define skill
 requirements, recruit
 apprentices, and provide
 on-the-job training under the
 supervision of an employer selected mentor.
- Structured on-the-job training Apprentices get hands-on training from an experienced mentor in the organization.
- Related Technical Instruction –
 Classroom instruction complements
 the on-the-job learning.

By Patricia Moran, Ph.D., Director of Apprenticeship Programs, NJMEP

- Rewards for Skill Gains Apprentices generally receive pay increases as their skills and knowledge increase. This helps reward and motivate the apprentice to continue to learn and grow.
- National Occupational Credential Apprenticeship
 Programs range from 1 year to 4 years. Once an apprentice
 graduates, they receive a nationally-recognized credential
 from USDOL.

To be an apprentice, you have to be employed. Many people think that only organized labor unions have apprentices. Today, there are apprentices in a wide variety of industries and occupations. There are individuals who graduate from one apprenticeship program, practice their new skills for a bit, and then go on to another apprenticeship or even college.

New Jersey Manufacturing Extension Program (NJMEP) has worked hard to get to two apprenticeships registered with USDOL.

One is for Technical Sales and the other is for Industrial Manufacturing Production Technician. With the

assistance of the NJ Department of Labor, these apprenticeships will be implemented throughout the state utilizing the NJMEP Pro-Action Educational NetworkTM. This network is a collaborative partnership between diverse resource partners all attempting to help employers address the needs of their workforce.

There are many options for students today. They should take time to self-examine and determine what path would be the best alternative for them.



Ers Secretal #FoodHelpHope

On February 15, 2019 the
NJMEP team volunteered and
worked together at the
Community Foodbank of New Jersey
to help prepare boxes of food
for 1,037 seniors!

You too can donate by going to https://www.njmep.org/manufacturing-cares/food-drive/



KNICKERBOCKER MACHINE SHOP LAUNCHES INTO NEW MARKETS

BACKGROUND:

Knickerbocker Machine Shop Inc. has been in continuous operation since 1943. Starting as machine designers and welders in a 3-car garage in Paterson, New Jersey, the company soon focused on producing the ASP Brand of austenitic stainless steel, duplex and high alloy pipe fittings, plugs and unions in 1944. The ASP Brand, marketed by Alloy Stainless Products Company Inc., became well known and internationally sold through PVF distributors for use in the chemical, pharmaceutical, petro-chemical, power & energy, shipbuilding, and nuclear power industries.

CHALLENGE:

Knickerbocker Machine Shop needed to improve its competitiveness and productivity. They had issues being able to expand their business and reach new prospects or new markets, and needed a way to engage with the community and business collaborators. It was imperative that the company develop new, sustainable revenue streams to remain viable.

SOLUTION:

Knickerbocker Machine Shop reached out to NJMEP for assistance and NJMEP met with Knickerbocker's senior staff to complete an on-site assessment with a plan to identify and clarify the organization's sales and marketing strategies.

The project focused on a needs analysis, and conducted a strengths, weaknesses, opportunities and threats (SWOT) analysis. Through a structured process, NJMEP helped Knickerbocker identify and characterize the markets, trends, value chains, and website enhancements.

NJMEP initiated a program that consisted of individual training modules: Destination Innovation, Establishment of Growth Opportunity Criteria & Project Goal Setting, Sales & Marketing Outreach Planning, and Monthly Market Scouting & Business Development Support.

The training produced:

- An expansion of Knickerbocker's ability to reach new prospects and or new markets through a carefully planned and professionally executed growth strategy.
- Distinct criteria that will define, weigh and go on to set a hierarchy of the organization's efforts as related to top line growth.
- Expert facilitation and project support that will instill a: Plan, Do, Check and Act inspired system to drive market diversification efforts.
- A structured process for identifying market needs and opportunities, while building a strategy and tactics to pursue carefully vetted market opportunities.

RESULTS:

After completing the training, Knickerbocker created new marketing messages and established a marketing strategy. The company is in a more sustainable position now that it has a formalized marketing plan and website in place.

Knickerbocker Machine Shop benefited from NJMEP's help in many ways:

- Retained Sales: \$4,500,000
- Savings on Investments:
- Cost Savings: \$50,000
- \$50,000

- Workforce Practices: \$50.000
- New Sales: \$150,000

Annemarie Appleton, President of Knickerbocker Machine Shop said, "Because of our engagement with NJMEP, we now have a better appreciation of our current marketplace, potential markets, how our current and future products fit into these markets, and how we might approach increasing sales. The services, marketing, and professionalism associated with the partnership have been outstanding."

New Jersey Manufacturing Extension Program, Inc. (NJMEP) Awarded \$600,000 to Start the Pro-Action Education Network[™] Apprenticeship Program

he New Jersey Manufacturing Extension Program (NJMEP) has been awarded \$600,000 from the State through the New Jersey Department of Labor and Workforce Development (NJL-WD) Growing Apprenticeships in New Sectors (GAINS) grant to start and support the Pro-Action Education Network™ Apprenticeship Program. NJMEP is looking forward to additional work that will allow them to top \$2 million in Apprenticeship spending over the next three years.

NJMEP will use NJLWD GAINS funding to scale apprenticeships in high-demand, high growth occupations, serve approximately 170 apprentices and 139 manufacturing companies over a three-year funding period. The proposed project will scale existing and grow new apprentices in two industry sectors: Advanced Manufacturing and Transportation, Logistics and Distribution (TLD). NJMEP will expand immediately into three registered apprenticeship programs approved or under final review by USDOL:

- Industrial Production Technician
- Technical Sales
- Certified Logistics & Control Technician

They will also facilitate approval of at least two additional registered apprenticeships in Computer Numerical Control (CNC), and Food Production Safety.

The apprenticeship program at NJMEP is

led by Torsten Schimanksi, Apprenticeship Program Manager, and Patricia Moran, Ph.D., Director of Apprenticeships. This will now allow us to expand apprenticeships programs within the critical Manufacturing and TLD Sectors with an initial focus on Trenton, Newark & Paterson. "We will be able to offer opportunities and up-skill those already employed in these industries to bolster the sector's competiveness," said Patricia Moran.

These apprenticeships correspond with in-demand industry occupations, and represent career pathways with connections to existing or emerging education and training offerings and pre-apprenticeship programs.

"NJMEP is honored to have this opportunity and extremely thankful to the NJLWD, Bi-Partisan Legislative Manufacturing Caucus, Governor Murphy and NIST-MEP; as apprenticeships are a key element in the State's agenda to help close the skills gap, revitalize manufacturing and increase the State's supply chain competitiveness," said John W. Kennedy, Ph.D, CEO, NJMEP.

NJMEP will be using the Pro-Action Education NetworkTM model relevant for scaling apprenticeships with a consortium-based approach (i.e., pool demand from multiple companies). The Pro-Action Education NetworkTM model leverages NJMEP's unique market position as an intermediary organization in the state and

national manufacturing ecosystem. The model increases the robustness of NJL-WD's manufacturing sector-based workforce development strategies as a result of access to NJMEP's existing customer base, reputation as a trusted advisor, market intelligence, role in facilitating NJLWD Industry Partnerships, and performance-based approach using National MEP Network metrics. The Pro-Action Education NetworkTM model is also a scalable, sustainable, and industry-responsive system.

NJMEP is bridging the two critical worlds of education and work, and is fostering the foundation for individuals to evolve into successful manufacturing careers with Apprenticeship programs.

"We are thrilled to be recognized as a leader in this area. The Pro-Action Education NetworkTM Apprenticeship Program will serve as a catalyst to create job opportunities and career pathways for those entering into and those seeking career advancement in manufacturing and TLD professions," said John W. Kennedy, Ph.D, CEO, NJMEP. "NJMEP has the unique ability to ensure programmatic success of this apprenticeship initiative with our strong understanding of workforce needs, labor markets, and curricula development and credentialing/certification along with our wide-reaching networks that cut across manufacturing and TLD occupations and industry," adds Kennedy. 🏮



ARE YOU SURVING OR THRIVING?



By Ben Dominguez Innovation & Growth Specialist NJMEP

What does it take for businesses to not only survive but also thrive in turbulent times?

Here are some tips...

Have a plan

"By failing to prepare, you are preparing to fail" -Ben Franklin

The most successful businesses always have a plan and review it constantly. Planning is not just for the businesses starting out and looking to secure funding. A strategic plan is a road map that helps businesses serious about growing move from where they are today to where they want to go. It focuses on the future, building a sustainable competitive advantage, and the resources needed to achieve both short and long term goals. Strategic planning includes:

- strengths, weaknesses, opportunities and threats,
- analysis of target customers, the industry and competitors,
- short and long term goals, financial projections and the key metrics to track along the way,
- marketing and operations plans and the resources (time, money and people) needed achieve the goals,
- an executive summary that summarizes each section and helps the team of managers, employees and others understand and support the plan.

What are your greatest Strengths and Weaknesses? Do you know your industry and competition well enough to identify growth opportunities and possible threats? Do you have clearly defined, measurable short and long term goals?

Stand out

"In a crowded marketplace, fitting in is a failure. In a busy marketplace, not standing out is the same as being invisible." –Seth Godin

Businesses are under enormous pressure to find and retain their customers despite constant threats from competitors. They need to find ways to differentiate themselves and avoid the dangerous strategy of simply cutting prices. They need to identify and develop their Unique Selling Positions and

effectively communicate them with their prospective customers. The message should include not only how they are different, but more importantly what that difference means to their customers.

Have you clearly indentified the wants and needs of your target customer? What do you do that is different from your competitors and meaningful to your customers? How do you market your brand, products and services?

Build your team

"Great things in business are never done by one person. They're done by a team of people" –Steve Jobs

The most successful business owners recognize the need to surround themselves with a team of talented people. They need to delegate the tasks that can be done by others so they can focus on the high impact items only they can do. More importantly, they need to build their team to leverage the expertise of others to achieve their goals.

Finding the top talent and necessary skilled labor is a common challenge in the industry. Many manufacturers work with a recruiter to find the people they need and other organizations to help train them. In the age of outsourcing, valuable members of the team may not need to be full time employees. Small to mid-sized manufacturers that don't have the need or the budget for a full time CFO can leverage an Outsourced CFO for financial advice on an as needed basis. Businesses can leverage outside expertise for new product development, outbound sales calling, HR infrastructure, so much more.

Do you have the right people/resources to execute your plan and achieve your goals? How would you describe your culture and the morale of your team? Have they been properly trained and do they have the right tools to do their job? What expertise could you leverage through outsourcing?

Know your numbers

"If you can't measure it, you can't improve it" -Lord Kelvin

Great businesses understand and track their Key Performance Indicators (KPI). By tracking KPIs, businesses are able to measure how they are performing and adjust as needed. Each leader or department will have different KPIs to track. However, KPIs should be important to the business owner, financial manager, production manager, quality manager, sales manager and everyone in the organization.

What are your Key Performance Indicators? Do your supervisors manage through metrics? Are your metrics known throughout your workforce?

Embrace change and change the status quo

"Changes grow out of a company's knowledge of itself and

its environment . . . the ability to learn faster than competitors may be the only sustainable competitive advantage."
- Arie de Geus

The world is constantly changing around us. The companies that have stood the test of time have a strong culture and ability to adapt. They are continuously looking to improve and evolve while they protect and build on the unique strengths that have led to their success. Understanding the industry and environment are essential for making the right changes at the right time. For many businesses the biggest obstacle standing in their way of growth is Status Quo.

Everyone knows Einstein's definition of insanity as "Doing the same thing over and over again and expecting different results." According to the 2014 Forbes article The 9 Most Dangerous Words In Business, the nine words are "This is the way we've always done it here." When customers are constantly looking for faster, cheaper and better, what are the risks of this way of thinking? This mentality discourages innovation and reduces the chances of developing new processes or products, reaching new customers and finding betters ways to serve them.

Many manufacturers, who are continuously looking to improve, have implemented Lean manufacturing in order to reduce waste, improve efficiencies and increase productivity. They were able to improve lead times, increase product quality, increase profits and much more. Customers and vendors notice the commitment to quality and service. Businesses with operations running like clockwork also see improved employee morale and employee retention.

How often are you introducing new processes, products or services? Have you introduced new processes to improve bottlenecks and system breakdowns? Could your products or services be applied (as is or with minor modifications) to new customers and markets? Have you explored entering into new markets or using new methods to reach your target customers?

Protect your business

Businesses also need to plan for the unexpected. They need to have a Succession Plan in the event that something happens to the current leaders. They also need to have a plan to lessen the impact of power outages, natural disasters and other possible interruptions. Having a Business Continuity Plan means that a business has identified possible threats and has a plan of action for those circumstances that threaten operations. It's not a question of "what if it happens" as much as it is "when it happens." Having formal procedures and systems in place will be crucial to recovering.

How will your business continue on and who will be in charge? How will you reduce downtime when faced with an interruption? How could a cyber attack disrupt your operations?

By Peter Russo, Life Sciences Sales Leader, NJMEP

edAccred is an industry-managed supply chain certification program for critical manufacturing processes in medical device manufacturing, that increases patient safety, assures quality products and verifies compliance with industry recognized standards. MedMMAP (Medical Manufacturers MedAccred Accreditation Pathway) is an NIST/MEP program designed to help manufacturers with efficient and effective pre-audit preparation for the MedAccred accreditation audit. MedMMAP, backed by the power of the MEP National Network, can help US Medical device manufacturers improve their competitive advantage and growth capability by adding MedAccred Accreditation to their organizations credentials.

NJMEP is part of the pilot grant that will train the SME's (Subject Matter Experts) required to perform the pre-audit assessments and to help manufacturers develop plans to rectify non-conformances. The goal is to increase competitiveness of the US medical device and medical instrument manufacturers, decrease industry costs, and improve patient safety. Domestic supply chains offer significant advantages in terms of lead time, innovation and on-time performance. MedAccred mimics NA-DCAP a similar program that was successfully implemented in the Aerospace industry and is administered by the Performance Review Institute (PRI) headquartered in Pittsburgh, PA.

Unlike QMS (Quality Management Systems) programs, which address a company's overall quality management, MedAccred focuses on key processes in medical device manufacture production. The positive to a manufacturer is once process accred-

itation is achieved, it is recognized by all the major OEMs and is not specific to any one component that may be manufactured by that supplier. Auditing and validation requirements for

both the supplier and OEM are greatly reduced, lowering overall costs. Most of the OEM medical device manufacturers have already indicated that future new products will only be developed in partnership with suppliers that have MedAccred Accreditation for critical processes. The program will be phased in over time as more Standards for Critical Processes are developed and approved by the members.

For now, accreditation is possible for the following processes:

- Cable and Wire Harness
 Printed Boards
- Heat Treating
- Plastic Extrusion
 Sterilization
- Flastic Extrusion
- Sternization

Plastic Injection Molding
 Welding

When fully implemented there will be over 20 critical processes. Recognized by the FDA and other international regulatory agencies, MedAccred offers an outstanding opportunity for manufacturers in the medical device supply to grow and solidify their position while improving the quality and safety of the components they offer.

For further information on the program please contact Peter Russo at NJMEP (973) 998-9801 prusso@njmep.org.

Printed Circuit Board Assembly

PRECISION CUSTOM COATINGS GOES THROUGH A LEAN TRANSFORMATION

BACKGROUND:

Precision Custom Coatings LLC manufactures and distributes interlining products. The company offers woven, nonwoven, and knitted fusible; needle punch and fiberfill; top fuse and sew-ins interlinings. Additionally, it provides adhesives, taping solutions, stretch linings, mattress and pillow encasing allergen-proof fabrics, and mattress protectors. The company caters to Filtration, bedding, automotive, and apparel markets. Precision Custom Coatings LLC was founded in 1987 and is headquartered in Totowa, New Jersey.

CHALLENGE:

The cluttered environment of the factory floor and machine shop mitigated their process flows and could negatively impact production and the quality of work.

SOLUTION:

Precision Custom Coatings recognized the need for Lean training in order to avoid hurting their overseas and domestic position with major customers. Precision Custom Coatings embarked on their Lean journey with the help of NJMEP. The first step in the journey consisted of an on-site assessment and a recommendation on how 5S System techniques followed by introduction of Lean concepts can help all production workers.

The 5S system is a Lean process that is organized around the following ideas: Sorting, Setting in Order, Shining, Standardizing and Sustain. The goal is to create specific places for paperwork, tools and equipment so that they can be located within 30 seconds. The 5S process relies on employees taking control of their work areas and suggesting and implementing improvements.

The Training Allowed Participants to:

- Describe the difference in workplace appearance and functionality before and after 5S process has been applied
- Perform an in-depth audit of workplace organization and standardization
- Organize the workplace by applying the concepts of sort, set-in order and shine
- Standardize procedures to maintain and control an organized workplace using visual controls
- Describe how 5S can help to improve workplace environmental health and safety
- Experience firsthand how 5S system reduces waste and improves productivity and quality

RESULTS:

Satisfied with the training, Precision Custom Coatings began applying lean processes to the manufacturing floor. Floor level training and improvements have helped minimize the time spent travelling between different work stations and around misplaced equipment, resulting in increased work efficiency. They've worked at sustaining the changes they've made and to continually find new ways to make the process better, cleaner, and faster.

Over the past year, the company has increased significant growth gains, including:

- Increased Sales: \$1,300,000
- Savings on Investments: \$50,000
- Employees Retained: 5

- Cost Savings: \$150,000
- Workforce Practices: \$99,000

Mohammed Kovangji, Director of Operations said, "Precision Custom Coatings has seen growth in both sales and employee size since working with NJMEP. Our staff has put into practice lean manufacturing skills, and the training has had a lasting impact on our company's day-to-day routine. 5S is far more than just straightening up and cleaning. It involves reviewing and re-thinking each employee's activity, and making sure their work area supports their work. NJMEP's assistance has proven vital to both our short and long-term successes."

The Future of Global Food Supply



This is an important year in the food industry because it has been determined that we will need to feed two more billion people¹. **That is 9 billion people total.** IFT (Institute of Food Technologists) have launched a specific program called Future-Food 2050 in 2014 to help tackle this initiative. The program, which is part of IFT's 75th anniversary celebration, aims to create a broad dialogue on how science will deliver solutions needed to feed the world's nine billion people by the year 2050. With the premise that the science of food is an essential ingredient for feeding the world sustainably, FutureFood 2050 will highlight the people and stories leading the way toward a healthier, safer, and better nourished planet². In addition National Geographic released a five step plan to help meet this staggering goal, which is outlined below³:

Step 1: Freeze Agriculture's Footprint

Step 2: Grow More on Farms We've Got

Step 3: Use Resources More Efficiently

Step 4: Shift Diets

Step 5: Reduce Waste

Based on these steps this is what the food industry is going to need to do to make the goal a reality.

Step 1: Freeze Agriculture's Footprint: We need to focus on the re-development of land to improve food security. We need to farm smarter on what we already have instead of increasing deforestation and expanding outward. Expansion isn't always a good thing. Maximizing efficiency and sustainability are going to be key areas with the land resources we already have in place for agriculture. Figure 1 visually shows the large gap between food and feed and fuel production agriculturally.

Step 2: Grow More on Farms We've Got: Utilize square footage better to maximize productivity using advanced technology systems via equipment, programs, and systems. For example blockchain technology and AI (Artificial Intelligence) are both hi tech program systems that can be leveraged and have a large impact if done correctly. An example of this is maximizing turning of crops with better process efficiency (personnel and equipment) around crop growth cycles. Urban farming in Chicago, NJ, and NYC are also attempting tackling this challenge with leveraging rooftop spaces or indoor vertical farming. However these need to be done safely via compliance with the FDA's FSMA requirements around cGMPs, Hazard Analysis and Risk Based Preventative Controls for Human Food, and Produce Safety rules to

ensure the finished products are safe quality food fit for human consumption⁵. New Jersey Manufacturing Extension Program (NJMEP) offers the following training programs: Preventative Controls for Human Food-PCQI, cGMPs Requirements &Readiness, HACCP, Food Security and Food Safety, Food Defense-Intentional Adulteration and Food Recall and Withdrawal to help educate on compliance and regulatory needs of food manufacturing clients with the FDA's FSMA requirements, and ensure food and beverage businesses in NJ are growing successfully and safely⁶.

Step 3: Use Resources More Efficiently: How do we maximize the usage of water? Drip irrigation? Ponics (hydro (water), aero (air), aqua (aquatic animals)), and maximizing closed loop systems? These are all areas currently being explored across the USA.

How do we minimize chemical inputs? How do we minimize reliance on fossil fuels? Target application of fertilizers and pesticides? Adapting organic farming methods? These are some of the broader questions that the agriculture industry needs to keep making strides forward with addressing⁷.

It is important to ensure from a government compliance perspective that your water and chemical inputs are not posing any risks or hazards to your food and/or beverage production. NJMEP offers food and beverage consulting services that can help assist with building environmental monitoring testing programs and sampling plans with 3rd party laboratories that will minimize the risk of biological and chemical hazards that pose risks from a contamination standpoint. Please contact 973-998-9801 to learn more and ask for the Food Vertical Team.

Step 4: Shift Diets: Today only 55% of the world's crop calories feed people directly; the rest are fed to livestock (about 36%) or turned into biofuels and industrial products (about 9%)8, which is also seen in Figure 1. Having a larger population shift towards eating local products (farmer's markets, CSA etc.) and having a less meat centric diet as well as shifting to more meat substitutes, which is a growing industry in CA (Impossible Foods and JUST Inc. are a few examples)9. Both companies that offer plant based options, meat and products related to eggs (mayo, cookie dough, and liquid egg batter) respectively.

Step 5: Reduce Waste: How do we reduce food waste individually? How do we reduce food waste at a manufacturing level? Smaller portions, leftovers, smart grocery planning, and improving processing efficiency for food and waste streams are all good places to start tackling this issue. NJMEP offers consulting services to assist with the later statement above in supply chain, lean manufacturing, and food waste management for food and/or beverage processing companies, please call the number listed above in Step 3 to learn more.

According to the National Geographic article "A Five Step Plan to Feed the World" these five steps could more than double the world's food supplies and dramatically cut the environmental impact of agriculture worldwide¹⁰. However this is a huge shift compared to where we currently are aligned with thinking as a



Figure 1- How Our Crops Are Used: Food vs. Feed and Fuel⁴.

society so this won't be an easy task. There needs to be a shift towards long term sustainability and providing for future generations in addition to addressing our current global needs around food. This all starts with strengthening communication between manufacturers, farmers, retailers, and government. This is something that NJMEP and all Manufacturing Extension Program centers across the USA (all states and Puerto Rico) advocate and pursue on a daily basis. Together we have the power to shift the current thinking to where it needs to be long term to ensure that there is sufficient safe, quality, and nutritious food for future generations to come utilizing our current resources. If you want to make a difference for future generations and improve your current business practices please contact NJMEP Food Vertical Team with the contact info below:

Food Vertical Team:

Juliana Canale, jcanale@njmep.org - Food Industry Safety, Compliance & Regulatory Solutions Specialist Dionisios Meis, dmeis@njmep.org - Food Program Project Coordinator

 $\pmb{\textit{Bob Salamone}}, rsalamone@njmep.org$ - Director of Vertical Engagements

P: 973-998-9801

- 1) National Geographic: https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/
- 2) IFT (Institute of Food Technologists): http://www.ift.org/
- 3) National Geographic Article (Ref 1.) How Our Crops Are Used: Food vs. Feed and Fuel.
- 4) FDA FSMA Final Rules https://www.fda.gov/food/guidanceregulation/fsma/ucm253380.htm
- 5) Food-Technology/Daily-News/2014/April/17/IFT-launches-FutureFood-2050-Program.aspx
- 6) National Geographic: https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/
- 7) National Geographic: https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/
- 8) National Geographic: https://www.nationalgeographic.com/foodfeatures/feeding-9-billion/
 9) Impossible Foods https://impossiblefoods.com/ and JUST Inc. https://www.iustforall.com/en-us
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TRENTON



Senator Linda Greenstein New Chair Of The Manufacturing Caucus

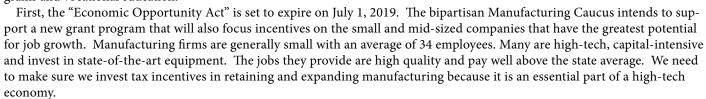
he new chair of the Manufacturing Caucus, Senator Linda Greenstein, was elected to the New Jersey Senate in November 2010, after serving for ten years in the New Jersey General Assembly.

A fulltime legislator, Senator Greenstein is Assistant Majority Leader of the State Senate as well as Chair of the Law and Public Safety Committee, Vice-Chair of the Environment and Energy Committee, and a member of the Budget & Appropriations Committee. A graduate of Georgetown University Law School, she served on the Manufacturing Caucus since its inception before being named Chairwoman in 2019.

Under former co-chairs, Senators Bob Gordon and Vin Gopal, the Manufacturing Caucus focused on four pillars: improving workforce development, supporting innovation ecosystems and infrastructure improvements, reducing over-regulation, and lowering the cost of doing business in New Jersey.

Under the leadership of Senator Gopal, the Manufacturing Caucus accomplished the passage of the "Securing Our Children's Future Bond Act" and obtained the supplemental appropriation of \$250,000 to the New Jersey Manufacturing Extension Program.

Going forward, Senator Greenstein wishes to continue these innovative goals with a focus on strengthening the "Economic Opportunity Act," cutting red tape, and pushing legislation for additional apprenticeship programs and vocational education.



A second major objective of the Manufacturing Caucus will be to review the problems of excessive bureaucracy and red tape. Too often we hear that government agencies take an inordinate amount of time to respond to companies' requests for permits, cooperation, or guidance. The state has lost too many manufacturing companies because companies cannot exist on the same time frame as government agencies.

And lastly, we have to ensure that we provide the vocational and apprenticeship opportunities that our young people need to get the technical-skilled jobs that our manufacturing companies need to fill. We need to make sure that we allocate funds from the vocational education bond issue to create programs that meet the specific needs of New Jersey manufacturers.

Last year, over 17,000 qualified young people applied to county vocational and technical schools, but had to be turned away because there was not room for them in the schools. The bond issue will enable us to offer more technical schools and courses and more 21st century career pathways to young people to keep them in New Jersey and working within our manufacturing businesses.

Focusing on apprenticeship programs through vocational education and community colleges will allow for underrepresented communities to enter into fields of technology and innovation as well as more traditional industries such as the building and construction trades.

In the months ahead, the Manufacturing Caucus intends to work closely with manufacturing businesses across the state. We hope to continue to foster a productive working relationship in which legislators and business owners can exchange ideas and we can offer legislative solutions to the problems companies are facing. It is our hope that we not allow all our hard work of the last few years to go to waste. Rather it is our hope that we continue to prosper together for a stronger state to conduct business in and with more than enough skilled workers to fill those jobs. The Manufacturing Caucus will work closely with New Jersey Manufacturing Extension Program and their Pro-Action Education NetworkTM Apprenticeship Program to ensure this happens.



The Research With NJ Initiative

ince taking office, Governor Phil Murphy's Administration has shared its vision for reclaiming New Jersey's preeminence in the innovation economy. Dating back to the industrial revolution, the State's manufacturing sector has played a pivotal role in its leadership in innovation, and manu-

facturing will be an important focus as we work to make New Jersey the State of Innovation. Central to this mission is creating an ecosystem that will foster innovation and empower New Jersey's many entrepreneurial manufacturers to create the products and production processes of the future.



In support of this endeavor, New Jersey has recently launched a comprehensive database of scientific research from six prominent New Jersey universities. The "Research with NJ" database provides access to the State's cutting-edge research assets, with the goal of strengthening collaboration between academia and industry.

Research with NJ is a free portal that showcases New Jersey's experts in science, technology, engineering and mathematics (STEM), including their professional backgrounds, publications, and achievements. The portal is structured and branded in such a way to encourage collaboration between entrepreneurs, businesses, and New Jersey's academic research institutions. The portal can be accessed at www.ResearchwithNJ.com.

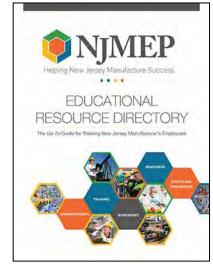
"The Research with NJ initiative supports Governor Murphy's vision for a vibrant innovation economy by facilitating collaboration between the State's vast technology and life sciences sectors and the thousands of university researchers continuously advancing new discoveries," said EDA CEO Tim Sullivan. "Research with NJ serves as an economic development tool, as it provides a window into labs at our universities, allowing them to serve as a resource to industry, and creating opportunities for both companies and academics."

Research with NJ launched with over 3,600 faculty profiles from five universities -- New Jersey Institute of Technology; Princeton University; Rowan University; Rutgers, The State University of New Jersey; and Stevens Institute of Technology. The database continues to grow as we have recently begun to integrate profiles from Montclair State University following its designation in 2017 as the State's sixth research university. Within the researchers' profiles, collectively, are abstracts of more than 220,000 research outputs and over 33,000 media citations. This robust body of information allows New Jersey's entrepreneurs and commercial enterprises to readily find a university's research, experts, and facilities to help them build innovative new businesses and products based on the latest scientific and technological breakthroughs.

"The alignment of businesses and academic institutions will help to grow New Jersey's economy by creating opportunities for our institutions of higher education to compete on the national and global levels," said Secretary of Higher Education Dr. Zakiya Smith Ellis. "Research with NJ offers visibility into groundbreaking research happening in our universities, and will serve as a conduit to innovation, facilitating commercialization of novel ideas and products and attraction of more funding to ensure pioneering research can continue at our world-class institutions."

Research with NJ was developed under the leadership of an Advisory Board consisting of the initial five participating research universities and industry representatives from the New Jersey Business & Industry Association, Choose New Jersey, BioNJ, the HealthCare Institute of New Jersey, the R&D Council of New Jersey, and the New Jersey Tech Council. The Advisory Board provides oversight and recommendations to ensure the portal's sustainability and success.

For more information on Research with NJ and how it can help you grow your business, please reach out to Eli Khazzam, State Project Director at NJEDA, who is overseeing the Research with NJ initiative. Eli can be reached by email at ekhazzam@njeda.com.



EDUCATIONAL RESOURCE DIRECTORY

If you want to find a new car, a new restaurant, or new technology for your office, there are resources you can count on to help make the job easier. Until now, New Jersey has not had a single source at its disposal to provide locations in assisting manufacturers to train their employees. However, State, county and even local governments have their own resources (as do private entities), and NJMEP seeks to fill the need for New Jersey Manufacturers with this Guide.

NJMEP has done the research and contacted key training resources in New Jersey to determine primary contacts, so download it today at www.njmep.org/educational-resource-directory.

Become a Made In NJ Affiliate



www.njmep.org/made-in-new-jersey/ join-the-made-in-new-jersey-program/

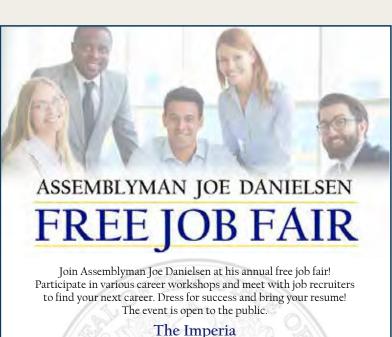
CAPITAL CORNER

KEEPING YOU INFORMED ON THE INTER-WORKINGS OF TRENTON

On behalf of the Commerce and Industry Association of New Jersey, we are honored to join the NJMEP for their quarterly newsletter. Our organizations share a common goal of providing our members with a voice in Trenton. Far too often, the voice of business is drowned out and it is our goal through in a combined effort to provide you with a voice under the gold dome of the capital.

The Commerce and Industry Association of New Jersey is statewide business advocacy group, with offices in Rochelle Park and Trenton, representing more than 900 members from virtually every business sector manufacturing, hospitality, financial, insurance, academia, and healthcare. We advocate the opinions of our members at the State House and provide our members with events to enhance and assist their business practices.

The Capital Corner will provide an incredible opportunity for you to know the workings of the Governor and the Legislature and an opportunity to provide feedback and stay informed while running your business.



The Imperia
1714 Easton Ave, Somerset NJ 08773
Wednesday, April 17, 2019
11:30 AM – 3:30 PM

RSVP: DanielsenJobFair2019.Eventbrite.com

Itinerary

II:00 AM – II:30 AM: Job Search Techniques (*Workshop*)
II:30 AM – I2:00 PM: Interview Skills (*Workshop*)
12:00 PM – 12:30 PM: Image & Influence (*Workshop*)
12:30 PM – 3:30 PM: Meet Job Recruiters

Companies who attended last year: New York Life, PSE&G, TD Bank, US Army, Aflac, Johnson & Johnson, Six Flags, RW Barnabas Healthcare, NJ Shares, & Quick Chek

Questions and Vendors: Please contact Laura Spector at (732) 247-3999 or AsmDanielsen@njleg.org In the thirteen months since Governor Murphy took office, it is an understatement to say that his administration's "stronger and fairer economy" has had its trials for the business and manufacturing sectors. We have seen the state implement a paid sick leave law, an 80% increase in the minimum wage, and new environmental regulations, such as environmental justice legislation which will greatly impact urban manufacturing.

Just recently legislation advanced in the Senate Commerce Committee which has been dubbed the "Toy's R Us" bill which increases the number of days a company must provide its employees notice of a plant closing and requires severance be paid regardless of whether notice was properly given. The decision to close a plant is difficult and complicated and many companies have protocols in place for such events which includes employee transfers and assistance, including financial. This bill is yet another government mandate on the private sector.

Fortunately, CIANJ and NJMEP are joining forces to work with the bill's sponsor, Senator Cryan to make adjustments to this bill which would not classify manufacturers and CIANJ members in the same fold as Toys' R Us and Sears.

We look forward to continuing to build the relationship between our two organizations and keeping you informed of the inter-workings of Trenton.

Juliana Canale the Food Industry Safety, Compliance, & Regulatory Solutions Specialist at NJMEP has been selected as the CNJIFT Secretary for the upcoming term of 2019-2020! Central New Jersey Institute of Food Techonologists (CNJIFT) is a subsection of NYFIFT (New



York Institute of Food Technologists). Institute of Food Technologists (IFT) mission and vision statements are historical background are below:

Mission: To advance the science of food and its application across the global food system.

Vision: A world where science and innovation are universally accepted as essential to a safe, nutritious, and sustainable food supply for everyone.

Founded in 1939, IFT was based on the vision of a small group of scientists who believed that communication among professionals involved in food science and technology was essential to the progress of these emerging disciplines. More than seventy-five years later, IFT has grown both in numbers and in impact. With members from virtually every discipline related to food science and technology, and from more than 95 countries around the world, IFT has truly become a voice for those dedicated to the science of food.

Members of the NY and CNJ IFT's are professionals involved in all segments of the food industry, academia and government. The NYIFT (subsection CNJIFT) has several objectives:

- To promote and maintain high professional standards among the members
- To promote the interest in the fields of food science and technology
- To provide networking opportunities among members
- To keep members informed through seminars and speakers

Juliana previously was the NYIFT Awards
Committee Chair in 2014-2015 and the NYIFT
Awards Comittee Co-Chair in 2013-2014. During
the term she was Awards Comittee Co-Chair the
NYIFT section received the Section of Excellence
recognition. She is excited to once again be
involved with NYIFT at the CNJIFT level, supporting the local state of New Jersey!

References:

https://www.ift.org/ https://nyift.org/about-nyift/

NJMEP 2019 CALENDAR OF EVENTS

To Learn More Go To https://www.njmep.org/calendar/

MARCH

- Internal Auditing for Food Safety Management Systems
 March 18, 2019 and March 19, 2019
- Corrective Action And Root Cause Analysis
 March 26, 2019 and March 27, 2019
- State of the State

March 25, 2019 (Trenton) and March 29, 2019 (Randolph)

APRIL

- Principles of Lean Manufacturing with Live Simulation April 3, 2019
- Capturing the R&D Tax Credit April 5, 2019
- Food Allergens
 April 16, 2019 and offered again May 8, 2019
- Certified Logistic Assocate
 April 24, 2019 and May 15, 2019
- Marketing Workshop Branding and Marketing 101
 April 19, 2019
- Industrial Hydraulics Hands-on Training April 23, 2019 and April 24, 2019
- Six Sigma Green Belt 6 Day Certification Training
 April 25, 2019, May 9, 2019, May 16, 2019, May 23, 2019,
 May 30, 2019 and June 6, 2019

MAY

- Supervisory Skills for New Managers Spanish
 May 1, 2019 and May 2, 2019
- Supervisory Skills for New Managers

May 7, 2019 and May 8, 2019

- Principles of Lean Manufacturing with Live Simulation May 13, 2019
- HACCP (Hazard Analysis and Critical Control Points)
 May 14, 2019 and May 15, 2019
- Food Recall and Withdrawals May 22, 2019

JUNE

SQF Practitioner

June 10, 2019, June 11, 2019 and June 12, 2019

NJMEP'S EIGHTH ANNUAL MANUFACTURING DAY IS FRIDAY, OCTOBER 4, 2019



National Manufacturing Day

has always been an important way for NJMEP to spread the word about the benefits that manufacturing provides to our Garden State. As a proud supporter of Manufacturing Day, NJMEP is excited to drive awareness of manufacturing, the career opportunities that are available and the advanced technologies that are driving the industry.





MANUFACTURING

2019

AWARDS NOMINATIONS ARE NOW OPEN!

Do you know of a manufacturer doing all they can to innovate the industry?

Do you know of a manufacturer working hard to maintain their impeccable quality?

Nominate them today at www.njmep.org/2019-new-jersey-manufacturing-awards-nominations/

AND JOIN THESE SPONSORS FOR THE MANUFACTURING EVENT OF THE YEAR!

www.njmep.org/become-2019-manufacturing-day-sponsor/







