



Innovation Roundtable

Winners of the MACNY Innovator of the Year award discuss their companies' pursuit of innovation and growth.

Corning Inc.

A commitment to innovation marks this manufacturer's past and defines its future.

Innovation in Workforce Education

P-TECH trains for tommorow.

Membership Directory



LEADERSHIP PROFILES

Peter Maier of INFICON, Kirk Wardell of Marquardt Switches, and Mike Wetzel of Air Innovations on their approaches to innovation.

ARPENTER INDUSTRIES INC. YOUR SANDBLASTING & COATING AUTHORITY!

Innovation Driven by Experience!

Our Clients:

- Manufacturers
- Fabricators

100

- Municipalities
- Public Works
- Truck & Trailer Owners
- Contractors

711

Like

- Schools & Colleges
- Agricultural Industry
- Landscaping Firms
- Engineering Firms
- Environmental Firms
- Architectural Firms

315-463-4284 www.carpenterindustries.com

CARPENTER

194





www.macny.org

President and CEO: Randy Wolken

Editor: Karyn Burns

Associate Editor: Marisa Norcross

Central Upstate Mfg. is published twice yearly. © 2016 MACNY 5788 Widewaters Parkway Syracuse, NY 13214

Phone: 315-474-4201 Fax: 315-474-0524



Central Upstate Mfg. is published for MACNY by Martinelli Custom Publishing, (845) 462-1209

www.martinellicustompublishing.com

Contents of this magazine © MACNY 2016. Reproduction in whole or in part is strictly prohibited without the prior express written permission of MACNY.

> Publisher: Thomas Martinelli Creative Director: Alex Silberman

INSIDE THE SUMMER/FALL 2016 ISSUE OF



5 | From the President's Desk

Welcome to The Innovation Issue.

7 | Legislation to Protect Innovation

American manufacturers thrive on innovations in product, process, and technology. They need the help of government to curtail the theft of their intellectual property.

9 | Innovation in Workforce Education

The P-TECH program—a partnership between schools, community, and industry—is designed to prepare the next generation of skilled workers.

12 | Corning's History of Continuous Innovation

Sustained investment in R&D, a combination of material and process innovation, and collaboration with its customers has yielded 165 years of success.

15 | The National Network for Manufacturing Innovation

A new resource to support collaboration between industry, academia, and government in the pursuit of innovation.

21 | Leading the Way to Innovation

The best leaders must be capable of embracing constant change while maintaining and creating outstanding products and services. Three CNY manufacturing leaders discuss what's involved in meeting the challenge.

29 | Roundtable: Innovation in Action

Past winners of MACNY's Innovator of the Year Award examine the environment, culture, and qualities needed to foster innovation.

37 | Greenlighting Innovation

Sometimes the best thing a leader can do is stay out of the way.

38 | Autonomous Vehicles Hit the Road

The technology is well-underway, now it's a matter of safety.

41 | Membership Directory

A listing of MACNY's current members.

58 Advertiser Index



Cover photo © 2016 Ron Trinca Photography



We're more than just a box company

In business since 1956 and servicing Western, Central and Upstate New York, Western Pennsylvania, Cleveland and Northeast Ohio, and Ontario, Canada, we consider ourselves to be problem solvers, innovative thinkers, and partners with our customers first and foremost.

As a custom corrugated packaging manufacturer, Jamestown Container provides unique, cost-effective solutions to a wide variety of challenges, with quick response and exceptional quality and service – everything you need to stay competitive within today's market.





www.jamestowncontainer.com 1-800-937-0028

Corrugated . Foam Fabrication . Retail POP . Litho Laminate . Supplies Assembly . Fulfillment . Design . Test Lab . Vendor Managed Inventory



Welcome



From the

President's Desk

bv Randv Wolken

he entire MACNY staff and our Board of Directors are pleased to provide you with the third issue of Central Upstate Mfg. magazine, and its insights into the vital topic of innovation. As we have all come to recognize, innovation is the life-blood of the manufacturing sector and the key to its on-going success. In this issue of *Central Upstate Mfg*. magazine we examine the theory and practice of innovation from numerous directions.

Our Company Profile feature looks at a century of innovation at Corning, Inc., arguably one of the most cutting-edge corporations in the world. Our Leadership Profiles reveal a C-level view of the role of innovation in today's manufacturing world and the styles of leadership that can make it happen. And this issue's roundtable discussion, "Innovation in Action," focuses on the day-today challenges of encouraging an innovative environment and culture as seen by recipients of MACNY's Innovator of the Year Award.

We believe that government has a role to play in strengthening innovation in the manufacturing sector. In these pages you'll learn about an innovative

educational program designed to prepare the manufacturing workers of tomorrow and get an introduction to The National Network for Manufacturing Innovation, an ambitious coalition of government, private, and academic institutions. How can we protect American innovations from theft and questionable exploitation? Our Legislative Update looks at a welcome new protection, The Defend Trade Secrets Act of 2016.

Finally, I thank each of you for supporting MACNY and manufacturing. Our success for over one hundred years comes from the great relationships with you, our membership. We cannot possibly thank you enough for your support and participation in our hundreds of offerings and opportunities as we continue serving the region's manufacturing community. We hope you enjoy this issue as much as we have enjoyed providing it.

And, as always, we remain willing to help each of our members find ways to become innovative in solving their most difficult challenges.

Sincerely,

Randy Wolken

Randy Wolken, President and CEO

Celebrating over 50 years in CNY



FISO

For more than 10 years, Novelis has been a proud member of the Central New York community. Novelis is the world's premier producer of rolled aluminum and the global leader in aluminum recycling, producing more than a billion pounds of high-quality aluminum sheet each year. Novelis Oswego is an important part of a global network of aluminum recycling and rolling facilities, producing aluminum for products like the all-new Ford F-150 and Super Duty trucks, beverage cans and architecture. We enable our customers to make their ideas real, and we help consumers to enjoy the products they want today while knowing they are contributing to a better world tomorrow.

LEGISLATIVE UPDATE

by Karyn Burns

Legislation to Protect Innovation

In unfortunate instances when trade secrets are compromised, our industry needs tools to act quickly, before a secret is disclosed and its value lost.

s American manufacturers competing in today's global economy, you understand that innovation and economic growth are inextricably connected. Innovation, technological advancement, and investment in capital goods surrounding technology and research have driven the U.S. economy for the last 200 years.

The federal government has been heavily involved in the global market and innovation debate for decades; its sound and strong policies have helped the U.S. remain a major player in manufacturing and business.

Today, however, the research and innovation of U.S. manufacturing is at a critical juncture.

Currently, intellectual property (IP) comprises more than half of all U.S. exports and drives 40 percent of the country's economic growth. However, IP fraud costs us significant further growth: counterfeiting and piracy deprives the U.S. of nearly \$250 billion a year and results in the loss of more than 750,000 jobs. Stronger enforcement practices, stiffer penalties, and government coordination and legislation to bring foreign countries into line with our standards and practices are

needed to stem the losses.

Intellectual property is one of the most valued business assets for manufacturers of all sizes. IP constitutes patents, trademarks, copyrights, and the somewhat less clear-cut category of trade secrets. Trade secrets consist of information and can include a formula, pattern, compilation (such as a customer list), program, device, method, technique, or process. According to the Uniform Trade Secrets Act, "a trade secret derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use and is the subject of efforts that are reasonable under the circumstances to maintain its secrecy."

In the unfortunate instances when trade secrets are compromised, our industry needs tools to act quickly, before a secret is disclosed and its value lost. The current system has long needed an update to provide the owners of trade secrets the ability to pursue IP thieves aggressively and efficiently, and with the clout of the United States Government.

The Defend Trade Secrets Act of 2016

The Defend Trade Secrets Act of 2016 (S. 1890, H.R. 3326)—a piece of legislation we have been tracking and supporting—which was signed into law on May 11, 2016, promises to fill the bill. It creates a federal civil right of action to protect trade secrets, eliminating the difficult, time-consuming, and costly process previously in place when manufacturers had to contend with multiple state jurisdictions. The bill will also give trade secret owners the same legal options as owners of other forms of IP.

Specifically, the Defend Trade Secrets Act of 2016 amends the Economic Espionage Act of 1996 to create a federal civil remedy for trade secret misappropriation. The Act's definition of misappropriation is modeled on the Uniform Trade Secrets Act and includes: "disclosure or use of a trade secret by a person who (1) had reason to know the trade secret was acquired by improper means or under circumstances giving rise to a duty of secrecy, or (2) before a material change in position, had reason to know that the trade secret was disclosed by accident or mistake."

The Act further provides, in extraordinary circumstances, for expedited individual relief in the form of a seizure of property from the party accused of misappropriation, if necessary to prevent destruction of evidence or the propagation or dissemination of the trade secret.

To ensure the continued vitality of American innovation, the federal government needs to focus on strengthening IP rights, starting with an efficient and effective patent system. Ideas that cannot be protected by patents need to be protected by strong copyright and trademark law that guards against infringement both online and offline. Bills such as the Defend Trade Secrets Act provide exactly what our country and sector needs: the ability to freely create innovative products and develop them in the U.S., secured by legislation ensuring that IP fraud from competing countries is not only forbidden, but will be addressed according to U.S. law.*

*Source: National Association of Manufacturers

PROUD TO BE MANUFACTURING IN CNY FOR OVER 100 YEARS.

STICKLEY. SINCE 1900

STICKLEY DRIVE, MANLIUS, NY STICKLEY.COM

STICKLEY, AUDI & CO., TOWNE CENTER, FAYETTEVILLE, NY 315.637.7770

目が国の

Workforce Development

by Joseph C. Vargo

Innovation in Workforce Education



Jeff Shuster of Ephesus Lighting mentors students enrolled in Syracuse P-TECH.

A partnership between schools, community, and industry helps students acquire essential manufacturing workplace skills to compete and excel in the 21st century workforce. he statistics about the need for skilled workers in advanced manufacturing are sobering: two million jobs are expected to go unfilled over the next 10 years due to the skills gap. The

majority of employers believe the problem is only going to get worse. The need for significant policy changes along with educational programs designed to place exponentially greater numbers of qualified candidates in the manufacturing pipeline is greater than ever.

This makes the unique and promising educational program designed to address skills gap challenges now underway in Syracuse and in Auburn of great significance to the manufacturers of our region. Pathways in Technology Early College High School (P-TECH) offers a six-year integrated high school and college curriculum that focuses on providing students in grades 9 through 14 with advanced manufacturing pathways in mechanical or electrical technologies. The program will help them acquire the essential workplace skills needed to compete and excel in the 21st century workforce.

Upon completion of a rigorous academic course load, P-TECH students will have earned not only a Regents diploma, but also a twoyear technical degree from either Onondaga or Cayuga Community College, the program's higher education partners.

Started with funding from the P-TECH New York grant, the program is a revolutionary partnership of school, community, and industry. MACNY and Partners for Education & Business (PEB) are leading the partnership, coordinating program support from dozens of regional employers—including Welch Allyn, National Grid, Bo-Mer Plastics, Eaton-Crouse Hinds, Liftech, G.A. Braun, and WestRock—to allow the students to achieve their work-based learning requirements. Employers are opening their doors for informational tours and job shadowing and will eventually offer internships. Perhaps most

> importantly, successful graduates will receive preferential hiring for entry-level positions at partnering area businesses

"MACNY and its membership, are pleased to be part of this exciting partnership," says MACNY President and CEO Randy Wolken. "The P-TECH

partnership will enable us to unite our collective areas of expertise and audiences, and elevate the future workforce by connecting them to the exciting opportunities and careers that await them within our region's robust manufacturing sector. I know I speak on behalf of the region's manufacturing community when I say we are ready and looking forward to helping shape tomorrow's workforce today."

Syracuse P-TECH is housed at the Institute of Technology (ITC) in downtown Syracuse, formerly known as Central Tech. Starting this summer, there will be 138 students in grades 9-11, with the goal of including about 300 students when the program reaches full capacity in the 2019-2020 school



GLOBAL REACH

Founded in 1949, The Fulton Companies is a multi-national group of companies headquartered in Pulaski, New York. From humble beginnings in an Oswego County garage, Fulton has grown to include ten manufacturing facilities across three continents. Fulton manufactures complex industrial and commercial heat transfer equipment all around the world, but our commitment to Central New York remains strong. With a recent multi-million dollar facility expansion in Pulaski, Fulton continues to grow and hire locally.



The Fulton Companies, 972 Centerville Road, Pulaski, NY, 13142 | www.fulton.com



Mentor Wally Degnos from National Grid meets with Syracuse P-TECH students.

year. Auburn P-TECH is located at Auburn High School and has approximately 45 students enrolled in grades 9 and 10. The program will eventually have about 150 students in all grades.

P-TECH students will be dually enrolled in high school and college courses as early as 11th grade. In addition, the program provides many new opportunities and experiences that will increase their awareness of the range of jobs available in manufacturing. The students get to see manufacturing and technology in action and have access to laser engravers and cutters, 3D printing, and much more. The program year is extended, as well; prior to the start of the regular school

MACNY and PEB are continuously recruiting companies to join them in making the PTECH program successful. For more information, contact Joe Vargo at 315-448-1012 or joev@macny.org. year, these young men and women participate in a one to two week summer enrichment program.

A critical component of the P-TECH program is mentoring, with a focus on supporting student learning, helping students understand the link between school and work, providing students with role models, and providing an opportunity for businesses to have a direct impact on future members of the workforce. Typically, mentors participate in regularly

scheduled sessions at the schools, with a defined activity in which the students and their mentors can interact. As the year unfolds, the students meet with local business mentors and are tasked with completing "real-world" activities that translate directly into usable skills in today's society.



"A Partner in Quality... Today & Tomorrow"

Quality Support Services



REWORK/REPACKAGE Experience includes repackaging, component repair/replacement, deburring, trimming and more.





ASSEMBL

Proficient in the completion of simple to complex subassemblies and final assemblies.



KITTING

Provide final or subcomponent kits for retail, aftermarket and service.

VISUAL INSPECTION / SORTING & CONTAINMENT Adept at verifying product quality and segregating per customer requirements.

Competitive Advantage

PEOPLE

- Business partners are all ex-Quality Managers
- Degreed and Experienced in Mechanical, Manufacturing Systems, Industrial and Quality Engineering
- Well-trained workforce that is Efficient, Effective and Productive (EEP)

PROCESS

- ISO 9001:2008 Certified
- Lean
- Cost, Quality and Delivery focused
- Mistake Proofing

SERVICE

- Strict adherence to customer requirements
- Develop customized solutions
- Effective communication
- Reliability
- · Service customers at our facility or at your location
- Always value-added



FEATURE: Company Profile by Karyn Burns

Corning's History of Continuous Innovation

In the course of its long history, Corning Incorporated has reinvented itself several times, finding success through sustained investment in R&D, a unique combination of material and process innovation, and close collaboration with customers.

orning Incorporated is one of the world's leading innovators in materials science. For 165 years, Corning has applied its unparalleled expertise in specialty glass, ceramics, and optical physics to develop products that have created new industries and transformed people's lives.

The company that was to become Corning Glass Works was founded in 1851 by Amory Houghton, in Somerville, Massachusetts, as the Bay State Glass Co. It later moved to Williamsburg, in Brooklyn, New York and operated as Brooklyn Flint Glass Works. In 1868, under the leadership of the founder's son, Amory Houghton, Jr., the company moved to its ultimate home and namesake, the city of Corning, New York, where, nearly 150 years later, it continues

to maintain its world headquarters.

Corning's businesses and markets are constantly evolving. Today, Corning's products enable diverse industries, such as consumer electronics, telecommunications, transportation, and life sciences. Their products include damage-resistant cover glass for smartphones and tablets; precision glass for advanced displays; optical fiber, wireless technologies, and connectivity solutions for highspeed communications networks; trusted products that accelerate drug discovery and manufacturing; and emissions-control products for cars, trucks, and off-road vehicles.



Ultralight, ultrathin, ultrastrong Corning[®] Gorilla[®] Glass is being utilitzed in 4.5 billion devices worldwide, on more than 1,550 product models across 40 major brands.

Corning's products are sold worldwide and produced revenues of \$9.1 billion in 2015. Corning is listed No. 313 on the Fortune 500 list.

"Corning succeeds through sustained investment in R&D, a unique combination of material and process innovation, and close collaboration with customers to solve tough technology challenges," says Corning's Chief Administrative Officer Lisa Ferrero. "The core of what Corning does is invent, make, and sell. We create value by inventing category-defining products, using transformative manufacturing platforms, and building strong, trust-based relationships with customers who are leaders in their industries. That process has served us well for more than 160 years."

In the course of its long history, Corning has

reinvented itself several times. Perhaps the most notable transformation came after the telecom crash of 2001. At that time, Corning was, as it is today, a leader in the growing telecom industry but sustained significant revenue losses when the market declined. As Ferrero explains it, "Corning's newly formed Management Committee formulated a plan to guide the company back to prosperity based on protecting the company's financial health, returning to profitability, investing in the future, and living our values."

In the following years, Corning's commitment to other business segments, particularly Display Technologies, drove recovery and enabled the creation of a bigger,



Corning has more than 2,000 scientists working across the globe, focused on everything from telecommunications enhancement to cleaner air.

stronger company. Display Technologies has since remained a revenue, profit, and cash-generation powerhouse for Corning.

One stellar innovation is Corning[®] Gorilla[®] Glass. This ultralight, ultrathin, ultrastrong product was first introduced in the consumer market in 2007 as a cover material for electronic devices. Since then Gorilla[®] Glass has gone through numerous iterations and is featured in approximately 4.5 billion devices worldwide, on more than 1,550 product models across 40 major brands.

Gorilla[®] Glass has also made its debut in the automotive industry. Automakers around the world are working to reduce the weight of their vehicles to meet strict mobile emissions regulations. "Corning[®] Gorilla[®] Glass for Automotive enables a weight reduction in glazing of more than 30% versus conventional soda lime glass," says Ferrero. "It can be used in all openings of a vehicle including windshields, sidelites, sunroofs and backlites as well as in automotive touch/control panels."

Indeed, innovation is a constant across all of Corning's product lines. In Display Technologies, the company is leveraging its fusion assets to drive the next round of display innovations, including thinner devices and more lifelike images.

In Optical Communications, Corning is delivering new connectivity solutions that lower customers' cost, improve network performance, and meet the unique needs of cloud data centers.

In Specialty Materials, Corning is building on its leadership position in cover glass by increasing scratch resistance, improving drop performance, enhancing optical clarity, and enabling new form factors for mobile devices.

In Environmental Technologies, the company is continuing its track record of making the air cleaner by developing particulate filters for gasoline direct-injection engines.

In Life Sciences, Corning is creating new tools for drug development, production, storage, and delivery.

Of course, such continuous improvement does not come without a cost. "Every year, the company reinvests between eight to 10 percent of its revenues in R&D," says Ferrero. "Currently, we have more than 2,000 scientists working across the globe, focused on everything from telecommunications enhancement to cleaner air."

Furthermore, inside Sullivan Park and in Corning's research and development facilities around the globe, "We strongly believe that innovation is still about a lot more than discovering a new material. Innovation also means finding practical uses for a material and then devising more efficient ways for producing that product," Ferrero says.

Highlights from Corning's History of Innovation

1879 Corning develops the bulbshaped glass envelope of Thomas Edison's incandescent lamp.



1915 Creation of heat resistant PYREX[®], which becomes synonym

PYREX[®], which becomes synonymous with a line of highly durable cookware and laboratory glass products still available today.

- **1926** William J. Woods, a former glassblower, and his colleague David E. Gray, an engineer, invent the high-speed ribbon machine which creates 400,000 bulb blanks in a 24-hour period, about five times the output of earlier machines.
- **1935** Dr. George McCauley, a Corning physicist, designs and directs Corning's production of a 200-inch mirror blank for the Hale Telescope at Mount Palomar, the world's largest piece of glass at that time.
- **1939** Corning's 9-inch circular cathode ray tube goes on display at RCA's futuristic demonstration of television at the World's Fair in New York City. By 1948, Corning would begin its journey into the television market by manufacturing television glass.
- **1952** Corning creates CorningWare[®], a new glass-ceramic material.
- 1961 The Mercury spacecraft makes the first successful American manned flight, equipped with heat-resistant windows manufactured by Corning. Corning would go on to create the window glass for every manned American spacecraft—from Gemini and Apollo flights to the space shuttle—and would continue to produce glass for numerous applications within the space industry.
- **1964** Corning scientists Stuart Dockerty and Clint Shay develop the fusion overflow process to produce flat glass. The process is used today to make liquid crystal display glass and numerous other products in Corning's advanced glass portfolio.
- **1970** Drs. Robert Maurer, Donald Keck, and Peter Schultz develop the first optical fiber capable of maintaining the strength of laser light signals over significant distances. This innovation paves the way for the commercialization of fiber optics for telecommunications.
- **1972** The company invents the ceramic substrates used in catalytic convertors that remove harmful pollutants from a car's exhaust system and then invents a similar process to reduce the pollution emitted by diesel engines.
- **1982** Corning's fusion process creates pristine and durable glass that goes on to be used in a wide range of technological marvels, from high-definition flat-screen TVs to tablets and the latest smart phones.
- **2007** Corning[®] Gorilla[®] Glass thin and light, but still tough enough to resist the scratches, bumps, and drops of everyday use—is developed to become the cover glass of choice for the consumer electronics sector.
- **2012** The ultra-slim, flexible Corning[®] Willow[®] Glass is developed for thin and lightweight applications.
- **2013** ONE Solution becomes the first all-optical converged cellular and WiFi solution.
- **2013** Corning develops Antimicrobial Gorilla[®] Glass, the first EPA-approved antimicrobial cover glass.



CommerceVantage[®]

Smart innovations for smarter businesses.

Danielle Yager 585.202.9281 danielle.yager@commercebank.com

UIIIIIIIIIIIIIIIIIIIIIIIIIIIII



- Automate invoice processing, approval & payments
- Earn monthly revenue share with multiple payment options
- Automate claims payments for providers and claimants

We ask, listen and solve. commercevantage.com Innovation Resources

by Bruce Hamm

Bringing together public and private funding from government, industry, and academic partners to work together in large national networks that foster innovation

and speed products to market.

The National Network for Manufacturing Innovation



Since then, three more reports—*Report to* the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing (July 2012), The National Network for Manufacturing Innovation: A Preliminary Design (January 2013), and Advanced Manufacturing Partnership Steering *Committee 2.0* (October 2014)—have been issued. These reports established a framework and plan for manufacturing policy and guided a number of federal undertakings.

In Obama's 2013 and 2014 State of the Union addresses, he proposed the creation of a Nationwide Network for Manufacturing Innovation (NNMI) to scale up advanced manufacturing technologies and processes. The creation of 15 publicly and privately funded institutes was proposed as part of the implementation of the first stage of the initiative. Over the course of 10 years, the creation of a total of 45 institutes is planned. As of this writing, eight institutes have already been funded and solicitations for several more are in some stage of development.

The NNMI Program is guided by the Advanced Manufacturing National Program Office (AMNPO), headquartered in the National Institute of Standards and Technology, part of the Department of Commerce. AMNPO operates in partnership with the Department of Defense, the Department of Energy, NASA, the National







DELIVERING OUR PROMISE

TOYOTA

Clark

Nilfisk

Advance

Creative financing is our strength. Thompson and Johnson will work with you to find a package that fits any budget.

Call us for a FREE material handling equipment consultation to see where we can help 315-437-2881 or visit us on our website below.

6926 Fly Read East Syracuse, NY 13057 www.thompsonand.johnson.com



Science Foundation, the Department of Education and the Department of Agriculture. The mission of the agency is: *To* convene and enable industry-led, private-public partnerships focused on manufacturing innovation and engaging U.S. universities; and to design and implement an integrated whole-of-government advanced manufacturing initiative to facilitate collaboration and information sharing across federal agencies.

AMNPO is further charged with coordinating federal efforts, encouraging technology transfer, and helping American manufacturers by connecting them with new technologies.

The goals of working collaboratively include improving production of intellectual property, research and development; and providing small and medium manufacturers access to new technologies, technology transfer, and new workforce solutions. Each Institute will have a unique technological focus and be affiliated with one or more federal agencies or initiatives.

Eight of these Institutes are in various stages of development. A brief description of the eight institutes that have already been funded appears below. Although only one of these Institutes is located in New York, many of them have connections to or "nodes" within the state. Where there is a direct connection, it is noted in the description.



America Makes: The National Additive Manufacturing Innovation Institute

www.AmericaMakes.us

MISSION: Innovate and accelerate additive manufacturing and 3D printing to increase our nation's global manufacturing competitiveness. America Makes is further tasked to:

- Foster a collaborative infrastructure for the open exchange of additive manufacturing information and research.
- Facilitate the development, evaluation, and deployment of efficient and flexible additive manufacturing technologies.
- Engage with educational institutions and companies to supply education and training in additive manufacturing.
- Link and integrate U.S. companies with existing public, private, and not-for-profit industrial and economic development resources and business incubators, with an emphasis on assisting small- and medium-sized enterprises and start-ups.



Digital Manufacturing and Design Innovation Institute (DMDII)

www.http://dmdii.uilabs.org

MISSION: To provide U.S. factories with the tools, software, and expertise they need to build things more efficiently, less expensively, and more quickly. The DMDII is the nation's flagship research institute for applying and commercializing cutting-edge digital technologies across key manufacturing industries. Its work has three main thrusts:

- Advanced Analysis, which is the collection of data over long periods of time to enable manufacturing design that takes future possibilities into consideration.
- Intelligent Machining, which integrates smart sensors and controls to enable equipment to automatically sense and understand the current production environment in order to conduct self-aware manufacturing.
- Advanced Manufacturing Enterprise which aggregates and integrates data throughout the manufacturing supply chain product life-cycle.

MACNY member RIT is a partner in this Institute and is in the process of conducting workshops on Digital Manufacturing. Contact MACNY for more information.

The goals of working collaboratively include improving production of intellectual property, research and development; and providing small and medium manufacturers access to new technologies, technology transfer, and new workforce solutions.



LIFT – Lightweight Innovations For Tomorrow

www.lift.technology

MISSION: To serve U.S. manufacturing by acting as the bridge between basic research and final product commercialization of new, advanced lightweight materials and innovative manufacturing technologies and practices. This enables the development of cost effective light weight components for the defense, aerospace, automotive, sea, and over-the-road truck industries. LIFT's efforts encompass the entire transportation supply chain, nurturing innovations from conception through design, development, and production.

An equally important mission is to facilitate the training of the workers who will use these new processes in factories and maintenance facilities around the country.

The LIFT consortia currently involves more than 200 companies, universities, non-profit research institutions, and workforce development intermediaries nationwide.

MACNY maintains a close relationship with the LIFT Education & Workforce Director, Emily DeRocco.



PowerAmerica

www.poweramericainstitute.org

MISSION: To develop advanced manufacturing processes that will enable large-scale production of wide bandgap (WBG) semiconductors, which allow electronic components to be smaller, faster, and more efficient than semiconductors made from silicon. WBG semiconductor technology has the potential to reshape the American energy economy by increasing efficiency in everything that uses a semiconductor, from industrial motors and household appliances to military satellites.

In New York's Mohawk Valley, GE Global Research and SUNY Poly are developing a Power Electronics packaging facility in parallel with this effort that is expected to create nearly 500 jobs in the initial phase, and double that over 10 years.



The Institute for Advanced Composites Manufacturing Innovation (IACMI) www.iacmi.org

MISSION: To develop lower-cost, higher-speed, and more efficient manufacturing and recycling processes for composites. The Institute will focus on lowering the overall manufacturing costs of advanced composites by 50 percent, reducing the energy used to make composites by 75 percent and increasing the recyclability of composites to over 95 percent within the next decade.

Bringing these materials down the cost curve can enable their use for a broader range of products, including lightweight vehicles with record-breaking fuel economy; lighter and longer wind turbine blades; high pressure tanks for natural gas-fueled cars; and lighter, more efficient industrial equipment.

IACMI provides open access to five shared research, development, and demonstration facilities that leverage extensive existing capabilities and build new capabilities. It has established a collaborative arrangement with the Long Island-based Composite Prototyping Center (CPC) to bring advanced composite materials and technologies to the marketplace. Contact MACNY to be connected to our Long Island partner.



Manufacturer of heavy gauge thermoformed or pressure formed plastic component parts since 1969.



PO Box 489, Auburn, NY 13021 (315) 253-2440 www.avfco.com

120 years of dedication...

With our recently-completed expansion, we continue our dedication to our craft and to manufacturing here in Syracuse.



Defined Contribution & Private Exchange The New Approach for Delivering Employee Benefits

Employers are seeking alternate methods for providing health care coverage, and the research shows many anticipate that the private exchange model is the answer they are looking for. According to JD Power & Associates 47% of businesses are likely to adopt a defined contribution model with a private exchange.



of businesses are likely to adopt a defined contribution model with a private exchange



- Gain cost control & predictability
- Streamline administrative tasks
- Give employees decision
 making
- Gain control over benefit
 costs
- Find the plans that best fit their unique needs
- Understand & appreciate the value of their benefits

We invite you to learn more about our private marketplace offering and how it can be a solution for offering employee benefits to your employees.

If you are interested in learning more please contact Patty Clark at (315) 474-4201, Ext. 10 or pclark@macny.org.



employers & employees

DEFINED CONTRIBUTION

& EXCHANGE MODEL

vith a





American Institute for Manufacturing Integrated Photonics (AIM Photonics)

www.aimphotonics.com

MISSION: To advance integrated photonic circuit manufacturing technology development while simultaneously providing access to state-of-the-art fabrication, packaging, and testing capabilities for small-to-medium enterprises, academia, and the government; create an adaptive integrated photonic circuit workforce capable of meeting industry needs and thus further increase domestic competitiveness; and meet participating commercial, defense, and civilian agency needs in this burgeoning technology area.

The Institute's goal is to emulate the dramatic successes experienced by the electronics industry over the past 40 years and transition key lessons, processes, and approaches to the photonic integrated circuit (PIC) industry. AIM is creating a National PIC manufacturing infrastructure, widely accessible and inherently flexible, to meet the challenges of the marketplace with practical, innovative solutions.

The University of Rochester and SUNY Poly are key partners in this consortium to advance U.S. photonics manufacturing capability. AIM Photonics is headquartered in Rochester, New York.



NextFlex, the Flexible Hybrid Electronics Manufacturing Innovation Institute www.nextflex.us

MISSION: To advance manufacturing maturity for flexible hybrid electronics, a set of technologies that bring together printed electronics manufactured on flexible substrates with semiconductor devices. These technologies yield forms that can be attached to skin, vehicles, or other structures, or can be bent, rolled, folded, and integrated physically in ways that traditional rigid electronics cannot.

NextFlex is focused on launching a new era in flexible hybrid electronics manufacturing by catalyzing the U.S. FHE ecosystem to commercialize technology through investments in FHE materials scale-up, thinned device processing, device/ sensor integrated printing and packaging, system design tools, and reliability testing and modeling.

Binghamton University and NYS Industry Partners— including GE Global Research, Corning, Inc., Lockheed Martin, and i3 Electronics, Inc.—will lead the New York node in the Department of Defense's \$75 million, five-year national "NextFlex" initiative to advance flexible hybrid electronics manufacturing.



Advanced Functional Fabrics of America (AFFOA)

www.joinAFFOA.org

MISSION: To enable a manufacturing-based revolution by transforming traditional fibers, yarns, and fabrics into highly sophisticated, integrated, and networked devices and systems.

AFFOA is built on a simple premise: functional fabrics necessitate deep fiber innovation and predictive manufacturing. AFFOA has America's leading IP cache in semiconductor fibers and assemblies and is strategically positioned to deliver revolutionary advances across the entire fabric supply chain, from multifunctional fibers to advanced nonwovens and yarn production, sophisticated weaving and knitting capabilities and, end-product fabrication for first-to-market manufacturing opportunities.

Cornell University has joined a consortium of 32 universities in AFFOA that are working on a \$317 million project geared toward creating 50,000 jobs in the U.S. within 10 years by restarting the nation's textile manufacturing industry.

CONTACT MACNY TO LEARN MORE ABOUT ANY OF THESE INSTITUTES.

ARCHITECTURE • ENGINEERING • FACILITY/FACTORY DESIGN • FEASIBILITY AND STRATEGIC PLANNING • LEAN MANUFACTURING ENGINEERING • OPERATIONS SUPPORT • PROJECT MANAGEMENT • SITE PLANNING



450 South Salina Street Syracuse NY 13201 www.QPKdesign.com/market/manufacturing



OUR ONLY PRODUCT IS SERVICE.

Providing heat treating services and solutions to customers with demanding process requirements.

Quality through Commitment and Experience.









info@syracuseheattreating.com • 315.451.0000

Vince Lobdell President/CEO, Healthway, Inc. Pulaski, NY

Pathginder Bank is Building a global company with products that help millions of people is very rewarding. But never reme from is something we

Our roots run deep. That is important to me, and why. . . Pathfinder Bank is My Bank!

www.pathfinderbank.com

Oswego: (Main: 343-0057 • Plaza: 343-4483 Downtown Drive-Thru: 343-2577) Mexico: 963-7248 • Fulton: 592-9545 Lacona: 387-3437 • Central Square: 676-2265 Cicero: 752-0033 • Syracuse: 207-8020



Member FDIC

Local. Community. Trust.

FEATURE: Leadership

by Randy Wolken

Leading the Way to Innovation

As is often said, to do the same thing over and over and still expect a different result is a definition of insanity. And yet, if we are honest with ourselves. this is exactly what we do. Therefore, the question is, how do we determine and then adopt a different set of behaviors that will help our teams and our companies be innovative?

t has never been more difficult to be a leader within and of an organization. The pace of change is breathtaking, and it will only accelerate. Leaders are now asked to be successful today and to also prepare for tomorrow. They are asked to produce results while building an environment that will enable their companies to continue to thrive when today's products and services are no longer profitable. This is where innovation becomes critical. Leaders must create an environment that is both innovative and productive.

Innovation is clearly the key to long-term manufacturing success. However, in my experience, it is a difficult activity for companies to excel at. Brian Heckler is a national sector leader of Industrial Manufacturing at KPMG LLP. In his work with hundreds of industrial companies, he gets to see what works for innovative manufacturers. Several of his insights seem especially important. According to Brian, there are five key areas that the more innovative manufacturers recognize as being fundamental to success: running at multiple speeds, recognizing the inflection point of innovative change, creating today's innovative organizational culture, adapting the business model, and having a long-term vision. You will see each of these methods used in some way by our featured innovative leaders and in play within their companies.

To be innovators we, and our teams, must be extremely good at changing our daily behaviors. Behaviors are at the heart of this effort. What we do in the next minute is what will determine whether we are changing and innovating. As is often said, to do the same thing over and over and still expect a different result is a definition of insanity. And yet, if we are honest with ourselves, this is exactly what we do. Therefore, the question is, how do we determine and then adopt a different set of behaviors that will help our teams and our companies to be innovative?

By definition, innovation requires change. Thus, the best leaders must be capable of embracing

constant change while maintaining and creating outstanding products and services... no small task for anyone. If change is necessary, how does a leader bring about change and innovation? In a nutshell, that is the Leader's Challenge. In this issue of our magazine, we are profiling three leaders who have met the Leader's Challenge and have created innovative organizational cultures and outcomes.

At the heart of innovation is the ability to change, be it an existing product, business model, process, investment, method, organizational chart, or any of the countless other aspects of our lives and businesses.

In the following profiles, we focus on the role of innovation and how it is encouraged at three of MACNY's

member companies. After reading it, I hope that you will share your insights and questions about innovation with the MACNY team and with your co-workers. If you do, it will be quite likely that these three leader profiles will contribute to even more innovation and inspiration.

We have all heard it said that innovation is the key to longterm success. However, in my experience, most of us find it a very difficult enterprise to excel at.

LEADER PROFILE

Peter Maier, President, Intelligent Sensor Solutions - INFICON Inc.



INFICON

Tell us about your business.

INFICON is the leading provider of products for gas analysis, measurement, and control for a broad range of specialized markets, with special emphasis on companies involved in the making of high-tech products like microchips and flat panel displays. Our advanced products add value to our customers by enabling them to achieve and maintain very stringent product and process quality requirements while also helping maximize equipment uptime and product yield. Our products are essential for gas leak detection in air conditioning/refrigeration and automotive manufacturing. They are vital to equipment manufacturers and end-users in the complex fabrication of semiconductors, thin film coatings for optics, flat panel displays, solar cells, and industrial vacuum coating applications. Other users of our vacuum-based products include the life sciences, research, aerospace, packaging, heat treatment, laser cutting, and many other industrial processes. We also leverage our expertise in vacuum technology to provide unique toxic chemical analysis products for emergency response, security, and environmental health and safety.

INFICON is headquartered in Switzerland and has world-

class manufacturing facilities in the United States, Europe, and China, as well as sales and service offices in 12 countries. We have over 1,000 employees, of which over 400 are in the U.S., with 260 in East Syracuse. We were founded in Syracuse over 46 years ago and have grown steadily over that time, due in large part to growth in exports. Most recently, we expanded with a brand new high-tech facility with 70,000 square feet of state of the art advanced manufacturing space. We also added to our highly educated workforce with a strong emphasis on STEM degrees. To meet the needs of our customers, we have been registered under ISO 9001 since 1993 and ISO 14001 since 2000; most of our products are CE and RoHS compliant.

How does your company define innovation? What are some of the key perspectives that help to shape a culture of innovation at INFICON?

In my view there is no single recipe for innovation; it is a natural development if the right environment exists. Innovation requires a passionate and curious workforce focused on positive change, imbued with the attitude that we can always improve further. This extends to products, processes, organization, and, of course, to ourselves. In today's world, innovations require open collaboration and a willingness to challenge the status quo across multiple disciplines, large geographic distances, and multiple cultures. Creating and sustaining such an environment is both challenging and exciting.

How does INFICON's legacy affect your ability to lead innovation?

We have a very successful history that gives our customers, our shareholders, and ourselves confidence in our ability to innovate, while also enabling us to make the necessary investments in our future. The best and most visible example of leveraging past success is the way we approached our need for additional space here in Syracuse. We considered many different options and decided to focus on creating the best possible environment to build our market leading products, both now and far into the future. This focus led us to totally reimagine our manufacturing space, resulting in significant improvements in key areas such as cleanliness, flexibility, efficiency, and automation.

What mindsets, qualities, or talents characterize top innovators? How does a business become a leader of innovation in its industry?

The most innovative companies have employees with open minds, passion, and curiosity bundled together with a sense of urgency – along with a strong belief in "the Scientific Method." To sustain leadership in innovation over time requires not just incremental innovation, but also the willingness to consider disrupting your own business model and product offering. As a company grows and ages, this often becomes more difficult and sustaining innovation requires increased leadership attention.

What does the process of innovation look like at INFICON? What are some of the key indicators you look to in deciding whether you have been successful?

Innovation can come from any area within INFICON. On the product side, we use our research talent and feasibility studies to strengthen our core competencies and then protect this work with patents. We execute on these new ideas with a combination of strategic planning, project prioritization, product roadmap review, and market opportunity exploration, coupled with fast product prototyping and application development. Done well, the result will be an increased share of revenue coming from fundamentally new as well as improved products.

Has a commitment to innovation affected the way you hire team members?

Talent is a critical factor for us and we have high expectations of our employees. For new hires, we look for strong academic performance coupled with key behavioral competencies. We believe only "A" players hire other "A" players.

How would you describe your style of innovation leadership?

I believe in authentic leadership where you aim to win the heart to win the mind. So, as much as possible, I prefer to inspire initiative and action rather than request it. In a fulfilling work environment, with curious and passionate minds, the best ideas often do not come from the leader but from the great people around him or her. I see leadership as a dynamic skill adjusted appropriately to each situation and requiring constant development.

What is the most important thing an innovative leader should do to stay effective and fresh in his or her work?

My view on what is important has evolved over my career. I now try to take time to recharge my mind, work on the relationships that are important to me, and also be deliberate about physical health and exercise. In and outside the workplace, I intentionally engage with others that think differently and I challenge myself to periodically try something new.

What is the most important thing an innovative company could or should do to stay effective in its industry?

Know why customers are buying your product and what value it generates for them. Do not lose sight of the need to look for new and better ways to solve your customers' problems. Not every new product feature or specification improvement creates additional customer value.



LEADER PROFILE Kirk Wardell, Director of Operations, Marquardt Switches



Tell us about your business.

Marquardt designs and builds products for customers in several industries, including automotive, power tool, and

home appliances. Most of our products are electronic-based, with microprocessors that control the functionality of the product. Examples would be key fobs that start cars, dash controls that manage the functionality within the cabin of the vehicle, power tool switches that manage batteries, speed, and on/off controls.

What is the role of innovation at Marquardt?

Marquardt is focused on innovation in several areas of our business, not just product design. To remain competitive, we have to be innovative in our organizational structures, processes, products, and services.

One of the key drivers of innovation is the fact that we are an engineering and manufacturing company operating in a highlabor-cost country. Most of our competitors, if not all, operate in countries with low labor costs for people in both production and engineering disciplines. Global connectivity, enabled by the internet, makes it easier to manage global teams of people in ways never before available. Marquardt also utilizes resources in

The MACNY Magazine and Membership Directory

MARQUARDT

low-labor-cost countries. The trick is to figure out how to truly function as a team across time zones, language differences, and cultural norms in ways that result in faster project turnaround with lower total costs—those challenges have become our innovation opportunities.

How does the legacy of Marquardt affect your approach to innovation?

Understanding which legacy pieces to keep, those that are strengths you can leverage in the future, is a key consideration that never ends. Deciding which legacy pieces are either obsolete or will become obsolete is, again, the challenge/opportunity for innovation that is unique to each company.

Marquardt has a long tradition of utilizing toolmakers (developed through internal apprenticeship) in our in-house machine shops to support production, develop prototypes, repair molds, etc. While we've invested heavily in traditional machining and foresee a continuing need for this in the future, we also recognize the need to engage in rapidly evolving technologies like additive manufacturing. We've recently begun to purchase equipment and buy services to grow our understanding of the processes, equipment, and skillsets necessary to blend our legacy machining capabilities with state of the art laser sintering and 3D printing and are already seeing and realizing the benefits.

How does a business become a leader of innovation in its industry?

Listen to your customers or potential customers and then deliver. This requires building strong relationships with your customers and that requires dedicated time and consistent performance.

What does the process of innovation look like in your company? How do you measure the input, workflow, and output of innovation?

We use our five-year strategic plan to identify where we want to go; we then assess our current state and we build our tactical plan to bridge the people skills, equipment needs, and new product gaps. Marquardt uses MIP (Marquardt Idea Process), MEP (Marquardt Efficiency Process), MVP (Marquardt Continuous Improvement Process) structures to monitor and track our progress. Each process is aimed at a different focal area to help us ensure that each of the necessary innovative elements is showing results.

What are some of the key indicators that you have been successful?

Being named as one of only three techno-centers out of the fourteen Marquardt locations.

Has your interest in innovation affected the way you hire team members? How is innovation integrated into your expectations during the hiring process?

To support more innovative efforts, we've done a fair amount of analysis on both functional and cross-functional skills vs. business needs (current and future). From this, Marquardt has determined what we feel to be an appropriate balance of young/fresh energy with experienced/lessons-learned energy. New employees are encouraged to question what and how Marquardt does things and to raise a flag if they feel there are more innovative or productive ways to accomplish the same thing (standout ideas are rewarded through the MIP process previously mentioned). The people that execute on their ideas are our most admired innovative employees.

One key point we've learned is that innovation has to be developed like muscle memory, that is, it needs to be viewed as a daily way of life. When innovation is woven into the cultural fabric, it doesn't seem so mystical or daunting or as needing such a big effort, which leads to smaller day-to-day innovation wins. The company structure and culture has to not only encourage this but expect it.

How would you describe your style of innovation leadership? Does it change in response to circumstances?

Innovation doesn't have to be a mythical beast – use your current tools, structure, and process in new, and therefore, creative ways. We frequently need to question ourselves and not rest on today's successes. Our passion is to learn from others and also to really focus on executing what we've learned. Our culture is built around expecting, from ALL of our employees, those ideas that make us better each and every day and to be able to point to the effect of those improvements on our bottom line.

At least once per year, and sometimes a couple of times per year, we change job titles, roles and responsibilities, and/or reporting structures to better support new customer directions, labor cost pressures, and employee career path alignment needs. This is done at all levels and requires trust and understanding from our employees to flex with those changes. If you're not tied to an identity of job title or job duties, you're better positioned for a job at Marquardt.

What are the most important things innovative leaders could or should do to stay effective and fresh in their work?

One approach is frequent, objective, data-based mirror checks. A second approach that Marquardt uses is "quiet time," a block of two hours per day built into everyone's busy schedules—free from emails, phone calls, or meetings—to focus on specific areas. This is aimed at unplugging and protecting a chunk of work time to be used however the person chooses, as long as it isn't used for one of the above-mentioned categories.

What is the most important thing an innovative company should do to stay effective in its industry?

Hire and retain people that can and will share the vision we've talked about and who are flexible enough to course-correct with the company.



Michael Wetzel, President and CEO, Air Innovations





Tell us about your business.

Air Innovations designs and builds environmental control systems for applications that can't be addressed with standard HVAC equipment. Our systems control temperature, humidity, and filtration to protect our client's processes or products.

Air Innovations serves a broad range of industries, including wine cellars (under the Wine Guardian brand name), aerospace, homeland security, semiconductor (under the Cleanroom Systems brand name), R&D, and pharmaceutical. Our systems are sold to clients all over the globe; to date we have sold systems to 37 different countries on five continents.

All Air Innovations products are designed, tested and manufactured at the company's 40,000 sq. ft. headquarters in Syracuse, NY. The company has been the recipient of many awards and has been included in Inc. Magazine's 5000 list of the fastest growing, privately held companies in America. Top innovators are risk takers, vision driven, and possess the ability to see deeply into a process or situation, always searching for a better solution.

How does your company define innovation?

Air Innovations does not innovate core technologies; we are not inventors per se. Air Innovations solves customers' problems by pulling together existing technologies and applying them to meet each customer's specific needs. Our innovation comes from the ability to bring these systems together in a customer- or application-specific orientation to solve unique challenges.

What are some of the key perspectives that help to shape a culture of innovation at Air Innovations?

We believe in sharing the details of each customer challenge we face. When employees know they are working on a project that might prevent a bomb from passing through airport security, or that will improve medical diagnostics, or that is part of the world's largest Ferris wheel, they have a deeper engagement in the problems we are solving. This leads to better innovation and employees suggesting solutions that they might not have suggested without knowledge of the end application. Often we can recognize potential problems or issues that the customer might face down the road, leading to better up-front designs to avoid those issues.

How has the company's legacy affected its approach to innovation?

Air Innovations has had to continually change throughout its history; adapting to changing customer needs and seeking out new opportunities has been in our "DNA" for a long time. In the beginning, we only built floral display cases for supermarkets. Thirty years later, that product represents less than one percent of what we do! This opportunistic attitude takes away the fear of trying something new—we are never afraid of tackling new challenges that we haven't faced before.

What mindsets, qualities, or talents characterize top innovators?

Top innovators are risk takers, vision driven and possess the ability to see deeply into a process or situation, always searching for a better solution. They are not only creative; they also have the talent to foster creativity and the implementation of ideas in their team. And most importantly, they have the resilience to withstand the tough times.

How does a company become a leader of innovation in its industry?

By constantly challenging the status quo.

THERE'S A BETTER WAY TO BUY ENERGY. BUY LESS OF IT.

Mark Detor Sr. Business Development Manager 315.234.5360 Mark.Detor@directenergy.com Direct Energy Business delivers smarter energy strategies that help our manufacturing customers buy less of what we sell. For more information, contact your dedicated Direct Energy Business Representative.



directenergybusiness.com

© 2016 Direct Energy. All Rights Reserved. DEB-0543-2016



How do you measure the input, workflow, and output of innovation in your company?

As our innovation is directly tied to solving our client's unique problems, their repeat purchase of our solution(s) is affirmation of the work we've done.

Has innovation affected the way you hire team members? How is it integrated into your expectations during the hiring process?

We make it very clear during the hiring process that we work with a broad array of customers, industries, and challenges. We also do not have a vertically integrated philosophy, which means everyone is expected to perform a broad range of tasks. Our employees like the diversity of the work we do and their range of responsibility, but that's not for everyone, which is important to decipher at the time of hire.

What is a key element in your approach to innovation leadership?

I believe consistency—so that your employees know how you handle various situations— is very important to building a stable work environment. All companies face a variety of situations, extreme highs to extreme lows; how you deal with those is important to the employees and their confidence in the long-term success of an organization.

What is the most important thing an innovative leader should do to stay effective and fresh in his or her work?

Networking with other company leaders to gain new and different perspectives is vital. Always challenge the status quo and consistently encourage the management and employees to think of new ideas and understand how his or her work affects company performance.

What is the most important thing an innovative company should do to stay effective in its industry?

A company cannot stay in the present, but must always look to the future. What products or processes could make the company obsolete? What changes could be put in place to improve the company or its products tomorrow? What is the competition up to? All are questions that should be pondered throughout the year to drive ideas for continuous improvement and innovation.

Let our team of experienced professionals implement the right solutions for your organization





A proud member of MACNY and celebrating over 25 years of serving our customers with material handling equipment!





Successful manufacturing recruitment requires balancing a firm grasp of the ever-evolving industry with a keen eye for talent and potential. With CPS Recruitment's 25+ years of experience in the industry we have a proven record in building winning teams for our MACNY partners.

Learn how we can ensure you achieve your goals---whether you have an immediate need for manufacturing expertise or a desire to develop a long term strategic plan to attract the talent you need -- CPS can assist!



Hire expectations. Hire results

904 7th North Street, Liverpool, NY 13088 315.457.2500 info@cpsrecruiter.com www.cpsrecruiter.com

FEATURE: Innovation Roundtable

by Karyn Burns

INNOVATION IN ACTION

he MACNY Innovator of the Year Award, sponsored by Corning, Inc., was created as a way to recognize individuals within a company who, although they may not be at the executive level, consistently demonstrate forward thinking ideas in the areas of technology, innovation, and advancement of products and production. Three past winners of the Award were kind enough to get together with us for an off-the-cuff discussion about how innovation is pursued and achieved in the day-to-day world of manufacturing.

The Moderator



Karyn Burns VP, Communications and Government Relations, MACNY



Kyle Brown Director of Engineering, Feldmeier Equipment, a national company with facilities in four states and headquarters in Syracuse. "We manufacture stainless steel vessels, mixers, heat exchangers and other processing equipment for the food, beverage, dairy, and pharmaceutical industries. Pretty much any liquid product that you see in the supermarket could have been manufactured in one of our vessels or produced in one of our heat exchangers."

The Innovators



Gary Stevens Assistant Vice President of Operations, SRCTec, a wholly owned subsidiary of SRC. "SRC is primarily a research and development company. They produce radar and electronic warfare systems primarily for the military. At SRCTec, we manufacture the systems that SRC designs. We are also a subcontractor for larger Department of Defense manufacturers — Northrop Grumman and Lockheed Martin."



Tom Szumloz Senior Manager of Current Product Engineering, Welch Allyn, which last year celebrated its centennial in the medical device industry. "Welch Allyn was acquired by Hill-Rom Corporation last year, and together we provide a broad array of medical devices and instruments to the industry. There are many opportunities, going forward, as a result of the marriage of these two companies."



MACNY — Kyle, you are the most recent recipient of MACNY's Innovator of the Year Award, so let's begin with you. The motto of your company, Feldmeier Equipment, is, "innovation is a family tradition." Feldmeier owns many patents, and you were recently awarded one yourself. The public probably imagines such inventions to be the product of a "Eureka!" moment or the proverbial light bulb going on. How does that view jibe with reality?

Kyle Brown — My experience has been quite the opposite, though certainly there are some light bulb moments. Most of what I've seen within our organization has been very methodical, and often slow, development in getting to a solution. We'll identify an issue in our industry or a deficiency in a current offering, be it by us or by our competitors. And then, often through many trials and errors, teamwork and joint ventures, we'll explore the avenues to solve that problem and, in some instances, come up with solutions that warrant us seeking a patent. Robert Feldmeier, who founded Feldmeier Equipment, had 19 patents and really created an environment and culture of innovation within our company. Today, more than ever, the Feldmeier family continues to encourage and value innovation.

Gary Stevens — Within the SRC enterprise, innovation is very broadly defined. What SRC, as an engineering research and development company, would define as innovation might be different than how a manufacturing company defines innovation. We're more about process innovation while they're more about solution-driven innovation. At SRCTec, our innovation might be a little less tangible - the redeployment of an existing process, or the combination of creating a lean culture while implementing the Shingo principles. For us, innovation tends to be the result of a methodical thought process rather than that idea of a light bulb in the head. **Tom Szumloz** — I think, at Welch Allyn, we tend towards what Kyle described. While we are a fairly large manufacturing company, there is a strong emphasis placed on new product innovation and new idea creation. Maintaining a competitive edge or advantage is key in the medical device industry.

We place a lot of emphasis on patent creation. Our wall of patents in the hallway is quite extensive and new patents are added every year. Sometimes they're for variations on a preexisting technology, sometimes they're fresh innovations. At the same time, we tend to be like the manufacturing companies Gary describes, but with one differentiation—the innovation is there, though much of it tends to be taken for granted.

You know, as a lifelong operations person, my mantra is "Continuous Improvement." A lot of the things that we come up with, a lot of the things we deploy,

are second nature. We don't need to go out and claim, "hey, we're really being innovative." It just seems like that's no big deal, we're just finding better ways of doing things, part of that constant striving, to use lean vernacular, to make small improvements on a daily basis.

MACNY — What is it like to work in a culture of continuous improvement; how is it manifested?

Tom Szumloz — I think some of it is culturally ingrained. You have a workforce that is never satisfied with the status quo. If something new comes along, or a problem arises, we immediately wonder how can we do that better, more effectively, to satisfy the customer even more. But I also think some of it is driven by the leadership of the company. An example of that might be in needing to return a five percent productivity increase on an annual basis. That impetus also drives you to constantly strive for the smallest incremental improvement, in any way you can achieve.

Kyle Brown — At Feldmeier, that spirit runs through our entire organization. We constantly see our laborers and fabricators wanting to contribute to an idea and come up with new ideas. Certainly when we bring in new engineers, they're encouraged to do the same. I think it's crucial in our environment— because everything we build is custom—that everyone is always trying to do something new.

When you bring in new engineers, they want to be innovative; no one wants to do the same thing over and over. I think it's critical that we don't handcuff them, and despite the everyday trials of making deadlines and achieving profitability, it's still part of the picture that we encourage new product development or enhancement to existing designs. It's a big part of what I've been doing.

Gary Stevens — It should be noted that it is the support of the entire organization that creates the lean culture; it's not something that exists only within manufacturing. Within the lean culture there are specific tools. One of them is called leader standard work, which flows throughout the organizational hierarchy. Whereas I might be concerned with revenue and cash flow, how does that tie to the next level and what is their focus - and you continue that linkage throughout the hierarchy. The operators on the floor know what their day-to-day, minuteto-minute contributions are that will roll-up to a measurement for cash flow or on-time delivery. Leader standard work is, "What are the five things I have to do every day. If I only get those five things done, then my day was successful." It's communicated in many different ways - a whiteboard on the wall or an hour-by-hour chart on the production floor so any person can trace their value through the value-chain to another person.



MACNY — What is nice about the innovator's award is that you're nominated by leadership within the company. Each of you were singled out for certain things. Gary, you were singled out for your ability to empower your employees and help them develop in a way that encourages a culture of continuous improvement. Tell us a little about that.

Gary Stevens — I want to point out that a lean culture focuses not on the output but on the process of creating the output. It's very easy to become focused on the output and the targets, but you have to transcend that and leaders throughout the organization have to focus on the process. If people are measured solely on the output of the process, they're going to be risk averse, they're not going to be willing to take on new challenges and try new ways to continually improve for fear that they may make a mistake. Certainly you want to achieve the target, but we also need to keep in mind that it's not just a mistake, it's an opportunity to learn.

So we focus on the process, on working with the people to help them learn. Say I took a risk, I implemented a new process, I tried something different and it didn't work, I didn't meet the target. I focus on what part of that new process I want to keep because it's right, what part do I want to continue to refine. You have to take some amount of risk. It has to be measured and calculated risk, but the only way you achieve capacity gains and innovations is through learning from the process.

Tom Szumloz — Ten years ago at Welch Allyn, the lean or continuous improvement culture was immature. We embarked on a journey in the manufacturing area first, like everybody else does, saw the fruits of that labor and said, now let's apply these learnings to the back office.

We implement these lean management systems whereby we

create standard work for the processes that are key to the success of a particular project or function. And I'm speaking of engineering here, not manufacturing. We actually have visual management systems for projects in key functional areas. It becomes quickly evident if something is going off-track. We call it a flow defect; if something stops us from continuing it earns our laser-focus, much like you'd do in manufacturing if the line was stopped.

This visual system has helped enable a more innovative culture. We are willing to take those risks because we have gone through a standard work process; we've scoped the effort out and we know what we have to do, we know where the risks are. We then monitor closely through this lean management system. That in itself drives our culture of continuous improvement innovation.

The key thing about it is, it's not really managed by me or other managers. It's the folks that are executing the work that are monitoring, that are challenging, that are addressing the flow defects when they arise. We started out with one group in the back office, and that process is now proliferating out to other functional areas. It's been extremely powerful and it really took leadership of the company to step up and say, we've seen all the great benefits that have been happening in the manufacturing area, how do we export that to the rest of the company and realize the same benefits? We assigned a lean guru to help proliferate that, and that was key to early success.

Kyle Brown — I think it's important for the management team at Feldmeier that we're not just saddled with engineering metrics and keeping track of our "day-to-day." Our pursuit of new design and innovation and what's going to differentiate us from our competitors stays a major focus in the company. It is in our culture, in the DNA of our company that came from our founder, that everyone is constantly striving for improvement.

I think it's awfully easy for organizations to look at some of the metrics that are being discussed today and to stop looking at the fundamental values that built the company. We built our company because our founder invented new products non-stop.



MACNY— Tom, you were the first recipient of our Innovator of the Year award. You were nominated in recognition of exceptional innovation in idea generation and team growth while simultaneously delivering new products to the marketplace. You've been praised for innovating through and with people. Can you comment on how that resonates with you?

Tom Szumloz — By degree I'm an electrical engineer and I started off my career doing design work. It wasn't exciting for me, it wasn't challenging for me. What did resonate for me was, if a particular design of mine was in the lab or the assembly area getting put together, I liked to be down there. I liked to listen to the technicians; they always had great ideas, feedback that wasn't being heard, nobody was seeing the challenges they faced....

I realized that there are different sources of information, of experience, of innovation and know-how in an untapped pool of resources. My observation was that there were functional areas throughout the organization that needed to have a say in how a product gets designed.

A lot of what we're talking about here is design for manufacturability, design for testability. So what I was championing in my role at Welch Allyn at the time was complete total involvement from a development team. Ten years ago at Welch Allyn, it wasn't the proverbial "throw it over the wall to manufacturing...." But it was pretty close.

A lot of what we did during that time was break down those barriers, get a seat at the table, work as a team; get operations deliverables related to safety, quality, delivery, and cost on the table.

You can't just throw a bunch of people together, turn a crank and expect to get high yield production. There has to be a target and there are tradeoffs every step of the way. MACNY — Gary, is there a difference between the work required to "keep the lights on" in day-to-day production and in the work of launching new products? Do the skills and the outlook required overlap?

Gary Stevens — If we consider what Tom was talking about—design for manufacturability, design for testability and serviceability—the answer is no. I say this because the people who are assembling the products, testing the products, repairing the products, need to be involved from the very beginning. When the white paper is on the wall and we're innovating the design, we're also innovating how that design goes together.

We need to ask questions like "how am I going to service that, if I'm a radar technician?" Our radars are used all over the world and where they're used there isn't always a tool shop. If I'm in the desert and I have to repair this radar, I'm

not going to be able to run to Lowe's to get a tool. We want to consider, at the earliest design phase, when the ink hits the paper, how we're going to manufacture, assemble, and test. For those reasons, if I follow that thought process through the product realization process, launch into production, and then through the product life cycle into retirement, when done correctly, it doesn't change and remains relatively constant. It only changes when the appropriate functional areas are not included up-front.

Tom Szumloz — I would agree 100 percent. As to keeping the lights on, we do have that as a separate function at Welch Allyn. The manufacturing engineering folks that are dedicated to new product development are separate from the folks who are keeping the lights on. That doesn't mean that there is a barrier. In our new product development space for manufacturing engineers, those tend to be populated with more of a project management type person. So our structure may look different, but at the end of the day, I think you can easily interchange those folks that are involved on either side of the equation. That doesn't mean there isn't a continuous exchange and knowledge sharing. The folks that are keeping the lights on and supporting the floor are eventually going to take ownership of that new product. So there may not be collaboration at the early onset, but very much so in the middle of the process and when we're getting into the qualification phase. Those folks are very engaged and well-equipped to take on ownership of that product when it passes what we call our "Production Start-Up" phase.

Kyle Brown — I have a similar view to Tom's. Because what we do is extremely customized, there's new product development every day by each of our designers, which is a wonderful environment to be in, something not every engineer gets to do.

I really relate to Tom's experience of spending four years as a designer first. That's exactly what I did. I was in our design group and then spent most of the next 15 years in an operations management type of position. Just recently I started a new position, Director of Engineering, which has pushed me back in the



"I think that most innovation comes from failure, to some degree. Something needs to be fixed, isn't pleasing a customer, isn't particularly efficient, so the opportunity exists because of a failure. Our process is to identify those opportunities."

Kyle Brown

direction of working intimately with our design group. I also relate well to the idea of using that pool of knowledge in the factory and not just the engineers throwing something over the wall. My father was a gunsmith for 46 years. So I grew up with, "The engineer won't listen to me. He's new and I've got 46 years of working on this product and yet I don't have a voice." I think that's why he wanted me to become a mechanical engineer. It set me up well, when I first joined the company, that I was the one who would spend the extra couple of hours a day working with the guys in the shop. The things I learned from that really helped the company. Today at Feldmeier, our leadership and the management team is as much production based as it is engineering. Most of our new product development is a 50/50 exchange between production and engineering.

Tom Szumloz — You were talking earlier about the "Ah-ha!" moment. My "Ah-ha!" moment early in my career....the barometer for the culture that existed, was an engineer saying, during development of a particular product, "well, I can build it so of course it can be manufactured." It just illustrated to me that there was a very narrow perception of what manufacturability is. Certainly, I'm not faulting anyone; it's not an uncommon definition. Part of that evolution that we started was very much educational. What, really, is manufacturability? It's not just putting it together. It's your supply

chain, its your flexibility, its everything rolled up into your manufacturing capability. You can come up with the most elegant design and the most high-performing piece of equipment, but if you can't put that product together and get it into the customers' hands efficiently and effectively and quickly, it's a failure.

Kyle Brown — The first "Ah-ha!" moment that comes to mind was early on, when I was a designer and working with one of the guys in the shop. One of the lead men, after I'd said that I'd screwed up on something, said it was the first time he'd ever heard an engineer say he'd screwed up. It was an acknowledgement that our position in engineering surely wasn't above the people we worked with, the people we designed for. There needs to be some humility and I was received so much better by our production people because of that level of humility I expressed.

From the design standpoint, the patent I received was something that was probably

gradually designed over a decade. Our engineering supervisor and I kind of had a moment in the last two weeks. We're in the process of applying for a new patent. It's much different than the patent I received which, albeit it's a design that we're proud of, has relevance and dozens of applications annually. The patent we're going for now, however, is something that there's millions of across America that we feel can all benefit from a new design. I think that MACNY awarding me Innovator of the Year and getting my own patent has encouraged our workforce at Feldmeier to start looking for those things. So as we were walking through the shop and started bantering about a problem, we quickly got to the point that not only did we see the solution for Feldmeier, we saw how it might change the way the whole industry does this specific design.

MACNY — Kyle, can you describe the birth of an innovation? You've all touched on the things that contribute to the "birth" of an innovation in this discussion. Are there some elements that are typical of the process and are innovations always part of a continuum?

Kyle Brown — I think that most innovation comes from failure, to some degree. Something needs to be fixed, isn't pleasing a customer, isn't particularly efficient, so the opportunity exists because of a failure. Our process is to identify those opportunities. I like what Tom said: laser focus on those items, find those big items and dedicate resources. I think that is how our process would occur: identify and then try to find a solution, bring together the right group of different disciplines and come up with a solution.

Gary Stevens — I would say innovation is the result of an insatiable desire to improve and never accepting the status quo. I think if I were to walk through the factory today and point out the most recent innovations, most people would look at them and scratch their heads, because people tend to define innovation

RISK MANAGEMENT SOLUTIONS

Business Insurance Solutions Safety & Industrial Hygiene Consultation, **OSHA Training Programs, In-house Workers' Compensation Specialist**

Employee Benefit Options Benefit Administration, Compliance, Private Marketplace & Wellness Programs

Personal Insurance Products Home, Rental, Auto, Flood, Life & Long **Term Disability, Payroll Deduction**



Call us today at (315) 451-1500 or visit us online at www.haylor.com



HAYLOR, FREYER & COON ING. Insuring All You Value

We like to say

when others say no.

Dynamic Pak Thermoforming has more than 25 years of experience and is one of the leading providers of thin-gauge (.009ml to .080ml) thermoforming of custom products including containers, industrial packaging, lids, trays, blisters, clamshells, and other products for the medical, industrial and retail industries. Our engineering technology and dedicated tooling capabilities ensure critical processing control and repeatability of the highest quality.

At Dynamic Pak, we strive each and every day to get our clients what they need, when they need it, and at a quality that meets their specifications.

Contact: Thomas "TM" Coyne, President tmcoyne@DPthermoforming.com 102 West Division Street Syracuse, New York 13204 P: 315.474.8593 F: 315.474.8795



"I would say innovation is probably the result of an insatiable desire to improve and never accepting the status quo... People tend to define innovation as the production of something, the design of something. I don't feel that's exactly the right, I think it's too constricting."

Gary Stevens

as the production of something, the design of something. I don't feel that's exactly right, I think it's too constricting.

We innovate by redeploying systems that people innovated and deployed after WWII in the plants of Toyota. Our visual management process and our idea generation process (both of them paper-based) are very innovative. Using them, we've generated hundreds of ideas in the last year. Prior to that we generated tens of ideas in a similar timeframe.

Our visual management process lets us communicate almost fluidly, without using any language. We have up to 30 or 40 production

associates and just one supervisor. We've created that one-to-many relationship by creating a visual factory that allows each staff member to find his/her job.

We have taken those ideas and determined, for our factory, for the products that we produce, this is a better solution. It may not be a better solution for anyone else.

Tom Szumloz— In my experience, innovation comes from a need. Whether it's a need by a customer—such as a doctor needs to do a diagnostic on the road, maybe an application in some developing country where they need something portable—or the need to do something innovative in the shipping area—getting products configured quickly and out the door.

Sometimes the solution isn't that evident. It takes getting the right group of folks together. I think that's what is very powerful about the visual factory. It enables people to see that information, it's not held close to the vest, it's out there, and that drives ideas. We see it all the time at our boards. Somebody will point to something and say, well I know a little bit about that, what kind of problem are you having? And before you know it, you've got three or four people offering solutions. And those solutions are driving other ideas, and the problem is solved in a relatively short amount of time.

To me, it's just taking advantage of the pool of resources you already have.... very smart people whose input would go untapped if the problem appeared on a spreadsheet somewhere, or was tucked away on somebody's laptop. Because it is visual and out there, those needs get satisfied very quickly.



MACNY — Based on what I'm hearing, it sounds as if none of you have room in your innovation-driven organizations for someone who says, "It's not my job." What sort of things do you keep in mind as you get involved in the hiring process, deciding on the sort of people you're looking for, and how do you go about making sure they understand the culture they're getting into.

Kyle Brown — Due to our growth over the last 15 years, I've interviewed and hired quite a few engineers. The candidates that have jumped out at me are those who are tinkerers. Technical aptitude and having some fabrication type instincts definitely serves well for the type of design work that we do, and I think that goes hand in hand with innovation; it's from the same skill set.

Gary Stevens — I would summarize what I look for in an interview in one phrase: "You can't teach work ethic." I can teach someone with a strong work ethic almost anything they need to know, but I can't teach work ethic to the best engineer.

Tom Szumloz — To build on that, I look at it as a 50/50 proposition. In any job, 50 percent is knowing what you're doing. If you're hired to be an electrical engineer, you have to know something about electrical engineering. But the other 50 percent is work ethic and all the other traits that you value in your organization, including ability to work as a team and a willingness to take on challenges outside of your core responsibility. If there's one thing that turns me off it's the person that knows more about what their job isn't than what it really is.

We tend to look for a person who has done a lot of different things; it indicates they haven't shied away from a challenge. It's the old adage, "Well, I've got 20 years experience." Well, it could be just one year of experience, twenty times over. The question I hate the most is, "what do you see yourself doing in five years." If somebody can paint that picture down to a detail, it's a red flag, because they've got the blinders on, and all the other capabilities that offer experience and benefit to the company, go by the wayside.



DEREGULATED NATURAL GAS EXPERTISE

LEADERSHIP

by David Freund

How many of us would love to have someone like Edison on our staff? Maybe we do, and our culture or environment is holding them back. Management is transactional; leadership is transformational.

Greenlighting Innovation

eople and culture are the most important drivers of innovation according to 94 percent of the executives responding to a McKinsey Quarterly survey on leadership and innovation. And among the people-focused building blocks needed to foster innovation are trusting employees and creating conditions that allow dynamic innovation networks to emerge and flourish. This sounds simple enough, but we all know that the difficulty is always in the implementation, especially when we are dealing with the human factors. The fact is that we need to establish cultures where our employees

feel trusted and are encouraged to be innovative. We need to build an environment where it is okay to fail.

Many years ago when I was working in product design and methods engineering, our company was faced with a major dilemma. A large customer informed us that, due to its high price, they could no longer buy our product. This particular product line was a significant portion of our business, and upper management quickly determined that other customers would soon be calling with the same concerns. Within a few hours, the Vice President of Engineering and Manufacturing called a coworker and myself into his office to share the bad news. If we did not find a solution to the problem, the company as we knew it might be a thing of the past. What could we do? This was a mature product, and many before us had tried to find better ways to produce it, but in reality, it was simply too labor-intensive and slow to make. It was, perhaps, a great product that had run its life cycle and was ready to die or to be replaced by a foreign knock-off.

Before being excused from the meeting, the Vice President challenged us to find a better way. He encouraged us to think outside of the box and told us that all possible options were on the table. We left the meeting with a sense of optimism and support from our boss.

After a few hours of discussion, we had developed an idea—an idea that, for all intents and purposes, was insane. Perhaps we were naive or filled with youthful optimism. The "experts" in our industry said it could not be done but, nonetheless, we shared our idea with the Vice President. He asked us only one question: do you really think your idea is worth trying? Notice he did not ask if we were sure it would work, just if we really believed it was worth trying. Of course our answer was yes.

Over the next three months or so, he would look for daily updates. The question was simple: do you see enough progress to keep moving forward? As long as we were learning, he not only gave us a green light, but also encouraged us to keep going. One day the President of the company walked through and said, "I just want to say hi. I

know I am not allowed to ask how the project is going."That is when we realized that the Vice President had politely asked the President to stay out of our department. He was concerned that impatience and frequent visits would cause us stress and inhibit our ability to be truly innovative. In the end, we developed a process that increased production by 600 percent and saved the product line for many years to come.

I have often thought about that boss and what he did to develop a culture of innovation. He trusted us and invested in us with training. He would share his experience but didn't try to control what we were doing. He insulated us from unnecessary pressures and made our work fun! He was very aware of what would upset the culture and protected it at all cost. Part of that culture was an awareness that it was okay to fail. Not careless failures, but failures that were First Attempts In Learning.

Henry Ford said, "Failure is the opportunity to begin again more intelligently." Ford went bankrupt twice before founding the Ford Motor Company we know today.

Thomas Edison said, "Just because something does not do what you planned it to do doesn't mean it is useless." He also said, "When you think you have exhausted all your possibilities, remember this – you haven't." Five of Edison's inventions were considered failures in their day. In 1899, he started the Edison Portland Cement Co. The problem was that concrete was too expensive and didn't catch on. In 1895, he created the Kinetophone, a peephole device with ear tubes for people to watch and listen to talking pictures. He abandoned the idea in 1915.

Edison purchased dolls from Germany and installed small phonographs, but people complained about reliability and sound quality. Lastly, he invented the electric pen, a device that punched small holes into the paper as you wrote with it. You could then make multiple copies by rolling ink over it. Unfortunately, it was not very ergonomic and, with a selling price of \$30, it was cost prohibitive. At the time, they were all considered failures when, in fact, they were ideas ahead of their time.

How many of us would love to have someone like Edison on our staff? Maybe we do, and our culture or environment is holding them back. Management is transactional; leadership is transformational. Let us all strive to be transformational leaders who build organizations and cultures where employees thrive because they are valued, invested in, and trusted.



by John Lawyer

Autonomous Vehicles Hit the Road



Google's self-driving cars have logged more than 1.5 million test miles. The company expects its autonomous vehicles to be available to the public in 2020.

The potential benefits to our transportation system are likely to lead to immediate adoption of autonomous vehicles just as soon as their safety is firmly established. ur expectation is that emerging technologies will eventually lead to advances in manufacturing, communication, or some other aspect of daily life. Occasionally one will appear that is transformative of markets, creating new categories of products that are so clearly valuable that they are adopted by customers immediately; think of products like the iPhone, the Internet, and industrial robots. Autonomous vehicles are that kind of emerging technology.

An autonomous vehicle (AV) is one that can sense its environment and control itself accordingly. At this point in their development, it makes sense to think of AVs as existing on a continuum, with more components being identified and added to the concept-and to cars already on the marketalmost daily. For example, autonomous vehicles may include driver assist systems that warn you if you are drifting out of your lane or stop the car when an obstacle is present. Cruise control was a precursor of this category. In the adaptive cruise control of AV, the vehicle will slow or stop as you approach an obstacle. Adaptive cruise control is already available as an option on many cars—such as the Chevrolet Impala, Ford Fusion and Jeep Grand Cherokeeand is standard on some luxury vehicles.

Autonomous vehicles will need to keep you in lane, change lanes as needed, and maintain

safe driving distances when travelling. Collision avoidance systems, already available on numerous high-end cars, can provide automatic emergency braking, monitor and warn of impending collision, and even tighten your safety belt. Night driving safety can be enhanced with infrared heads-up displays, and shape recognition software that detects pedestrians or bicyclists. The technology has proven itself effective enough at accident prevention that the federal National Highway Traffic Safety Administration is considering making some features mandatory on all new cars.

A further level of autonomy, present or on the near horizon, occurs when the driver can cede control to the vehicle under certain conditions. For example, a vehicle might be able to take on highway driving but would need the driver to take control in congested or city driving conditions. Autonomous vehicles may also park themselves, as with Ford's Mondeo and Escape, which can steer the car into a parallel space

The final level of autonomy is a vehicle able to perform all critical functions for the entire trip, not requiring a driver to intervene at any time. This would include the ability of the vehicle to operate without a driver present. In fact, a fully autonomous vehicle would not even need a steering wheel or other driver inputs.

Many Manufacturers Are Onboard

Tesla, with its Autopilot mode, has incorporated a number of self-driving features in its electronic vehicles. This feature allows the car to steer itself, stay in lane, change lanes if directed, slow and stop to avoid an obstacle, and park. However, it is currently intended for relatively simple situations, such as highway driving without much traffic. It also helps if you have good lane lines painted on the road. A driver must remain actively involved in decision-making or the car will stop. Tesla made this update to existing cars via wireless upgrades.

Google's self-driving car may be the most publicized of the numerous research and development projects underway that attempt to deal with the complexity of real world driving. The software for the Google X car is called Chauffeur. The team has won the DARPA Grand Challenge against competitors from several university and private sector teams. Google unveiled a fully



Perfecting the range of LIDARs, radars and GPS systems necessary for autonomous vehicles is well underway. More challenging is the establishment of the highly detailed 3D mapping and the development of a legal framework required for mass adoption of AVs.

functioning prototype in December of 2014 and, according to the company, has logged over 1.5 million miles of self-driving. Google plans to make its vehicle available to the public in 2020.

A Computer on Wheels

Autonomous vehicles clearly require the integration of a number of technologies. Multiple sensor systems are required to establish the vehicle's location and what else is in its environment. Light detection and ranging technology (LIDAR) gathers a million data points a second to measure intermediate distances using multiple laser lights. Car-mounted cameras detect pedestrians, other vehicles, signs, and traffic lights while radar units positioned around the vehicle calculate speed, following distance and traffic. The vehicles also have GPS sensors and will make use of highly detailed maps to help anticipate what to expect over the route they are travelling. Internal guidance sensors include altimeters, gyroscopes, and tachymeters so the car will have precise data on its position.

All these sensors provide data to the car's software systems for interpretation. Based on the real time data, the vehicle applies its learned rules and probabilistic reasoning to decide on the correct actions to take using actuators to operate steering, acceleration, and brakes.

Google and Tesla are not the only companies investing in autonomous vehicles. Mercedes has developed concept cars that are "hands-free"; Nissan, Delphi (formerly GM), Audi, and Apple are all developing autonomous vehicles; General Motors ranks highly in a study of global leaders in self-driving patents.

Advantages and Challenges

There are a number of potential advantages to autonomous vehicles. The Eno Center for Transportation predicts that if 10 percent of the cars on the road were self-driving, there would be over 200,000 fewer accidents annually and \$22.7 billion in economic savings. There would also be fuel savings from the more efficient driving provided by AV, such as smoother acceleration and reduced congestion. Other costs could come down as well. A prime example would be lowered transportation costs resulting from driverless freight trucks; the cost of the driver is one of the most significant expenses in truck transportation. And self-driving vehicles could provide transportation options for people who cannot otherwise drive.

There are, of course, serious challenges to be overcome before AVs can take to the highways in large numbers. The most frequently cited is the regulatory framework needed to accommodate this technology. For example, how do we deal with liability when an autonomous vehicle is in an accident? States are addressing these issues slowly and allowing only limited AV testing, with drivers, steering wheels, and brake pedals required.

There are also some remaining technological challenges. Can autonomous vehicles become sensitive and hardy enough to operate in adverse conditions like snow and rain? Can the expensive components be manufactured for less? Less expensive LIDAR and sensitive GPS systems are needed before the vehicles will be affordable: based on a 2015 Boston Consulting report, the additional cost to a vehicle's price for AV will be around \$10,000.

Considering the current state of these technologies, predictions vary on when we will have autonomous vehicles available to the general public. Semi-autonomous features, like lane following, are planned for GM's 2017 models. Elon Musk of Tesla has said driverless vehicles are two years away. Google has targeted 2020 for its vehicle's rollout. Ford's CEO Mark Fields predicts that we will have fully autonomous cars by the end of the decade, but that they will only operate in defined areas that have been 3D mapped. In his view, it will be 15 to 20 years before we have an autonomous vehicle that can take you anywhere.

INNOVATION. QUALITY. SERVICE.

The Raymond Corporation has been a proud member of the New York State community for more than 90 years—designing and building the best lift trucks and material handling equipment in the business. We employ a team of skilled and talented people who have made us a world-recognized leader in our industry. We're a company with the strong values of innovation, quality and service and a steady commitment to the place where we live and work.

www.raymondcorp.com



Membership Directory

While MACNY makes every effort to ensure that all information is accurate and up to date, all contact information is subject to change. If there is a change you would like us to make in our electronic copy of this document and for our records, please contact Marisa Norcross at mnorcross@macny.org or 315-474-4201 ext. 22.

A

Advanced Tool Inc.

9169 River Road, Marcy, NY 13403 PHONE: (315) 768-8502 FAX: (315) 768-4807 WEB: www.advancedtool.com

Aerotek

100 Corporate Woods, Suite 100, Rochester, NY, 14623 PHONE: (585) 350-2700 FAX: (585) 350-2790 WEB: www.aerotek.com

Agrana Fruit US, Inc.

8864 Sixty Road, Baldwinsville, NY 13027 PHONE: (315) 638-1200 WEB: www.agrana.com

Air Innovations, Inc.

7000 Performance Dr, North Syracuse, NY 13212 PHONE: (315) 452-7400 FAX: (315) 452-7420 WEB: www.airinnovations.com

Albany International Corp. - Monofilament Plant

156 S Main St, Homer, NY 13077 PHONE: (607) 749-7226 FAX: (607) 749-7216 WEB: www.albint.com

All Seasonings Ingredients, Inc.

1043 Freedom Dr, Oneida, NY 13421 PHONE: (315) 361-1066 FAX: (315) 280-0678 WEB: www.allseasonings.com

Allen Tool Phoenix

6821 Ellicott Dr, East Syracuse, NY 13057 PHONE: (315) 463-7533 FAX: (315) 463-0303 WEB: www.allentoolphoenix.com

Alliantgroup, LP

350 5th Avenue, Suite 5200, New York, NY 10001 PHONE: (713) 877-9600 FAX: (713) 877-9657 WEB: www.alliantgroup.com

AmeriCU Credit Union

231 Hill Road, Rome, NY 13441 PHONE: (315) 356-3000 FAX: (315) 356-3362 WEB: www.americu.org

Amerisource Funding

57 Tanglewood Drive West, Orchard Park, NY 14127 PHONE: (716) 662-0301 WEB: www.amerisourcefunding.com

Anaren Microwave, Inc.

6635 Kirkville Rd, East Syracuse, NY 13057 PHONE: (315) 432-8909 FAX: (315) 432-9121 WEB: www.anaren.com

Anoplate Corporation

459 Pulaski St, Syracuse, NY 13204 PHONE: (315) 471-6143 FAX: (315) 471-7132 WEB: www.anoplate.com

AP Professionals

220 Salina Meadows Parkway, Syracuse, NY 13212 PHONE: (315) 877-9709 FAX: (315) 679-4056 WEB: www.approfessionals.com

Arc of Onondaga

600 S Wilbur Ave, Syracuse, NY 13204 PHONE: (315) 476-7441 FAX: (315) 425-2701 WEB: www.arcon.org

Armstrong Mold Corporation

6910 Manlius Center Rd, East Syracuse, NY 13057 PHONE: (315) 437-1517 FAX: (315) 437-9198 WEB: www.armstrongmold.com

Auburn Leathercrafters

42 Washington St, Auburn, NY 13021 PHONE: (315) 252-4107 FAX: (315) 252-4734 WEB: www.auburndirect.com

Auburn Vacuum Forming Co., Inc.

PO Box 489, 40 York St., Auburn, NY 13021 PHONE: (315) 253-2440 FAX: (315) 253-2203 WEB: www.avfco.com

B

Babbitt Bearings, Inc. 734 Burnet Ave, Syracuse, NY 13203

PHONE: (315) 479-6603 FAX: (315) 479-5615 WEB: www.babbitt-inc.com





"Air Innovations is growing globally in specialty environmental control systems in diverse applications from aerospace and semiconductor to wine cellars. We need a partner who understands our unique audiences, but who also has global reach.

Advance Media New York has the digital expertise, local service, and global scope we need to achieve real results."

Rich Bailey

Director of Marketing & Business Development Air Innovations

Advance Media New York A local company with global reach

Advance Media New York is part of one of the largest media groups in the United States. We're 100 digital marketers. In the heart of Central New York. Ready to meet with you to focus on lead generation, lead nurturing, and storytelling that presents your company as a thought leader in your industry. We develop datadriven, digital first, marketing communications plans that are relentlessly focused on measurement and accountability.

That's our story. Together, let's tell yours.

- Customer Research
- Content Marketing
- Creative Services
- Display Advertising
- Email Marketing
- SEO/SEM
- Social Media Optimization
- Video Solutions
- Website Development
- And more

Contact us today for a free consultation: 315.470.2287 | shodgens@syracuse.com



315.470.2287 | shodgens@syracuse.com 220 S. Warren St., Syracuse, NY 13202 advancemediany.com



Bank of America Merrill Lynch

100 N Salina Street, Floor 3, Syracuse, NY 13202 PHONE: (315) 423-1810 FAX: (212) 548-8882 WEB: www.bankofamerica.com

Barber Welding, Inc.

PO Box 690, 2517 Route 31 West, Weedsport, NY 13166 PHONE: (315) 834-6645 FAX: (315) 834-6045 WEB: www.barberweldinginc.com

Barclay Damon, LLP

300 S State St, Suite 1000, Syracuse, NY 13202 PHONE: (315) 422-2131 FAX: (315) 472-3059 WEB: www.barclaydamon.com

Barnes & Cone, Inc.

PO Box 280-Eastwood Station, Syracuse, NY 13206 PHONE: (315) 437-0305 FAX: (315) 463-9134 WEB: www.barnesandcone.com

Bartell Machinery Systems, LLC

6321 Elmer Hill Rd, Rome, NY 13440 PHONE: (315) 336-7600 FAX: (315) 336-0947 WEB: www.bartellmachinery.com

Barton & Loguidice, D.P.C.

PO Box 3107, Syracuse, NY 13220 PHONE: (315) 457-5200 FAX: (315) 451-0052 WEB: www.bartonandloguidice.com

Bell Tenant Champions

120 Walton St, Suite 400, Syracuse, NY 13202 PHONE: (315) 476-7112 FAX: (315) 476-7113 WEB: www.bellchampions.com

Berry Plastics

1500 Milton Ave, Solvay, NY 13209 PHONE: (315) 484-4444 FAX: (315) 484-3359 WEB: www.berryplastics.com

Bitzer Scroll, Inc.

6055 Court Street Road, Syracuse, NY 13206 PHONE: (315) 463-2101 FAX: (315) 463-2107 WEB: www.bitzerus.com

BlueRock Energy

432 North Franklin Street, Suite 80, Syracuse, NY 13204 PHONE: (315) 432-4190 FAX: (888) 859-5181 WEB: www.bluerockenergyservices.com

Blue Water Capital Management, LLC

1001 James Street, Syracuse, NY 13203 PHONE: (315) 438-8690 WEB: www.bluewatercm.com

Bobrick Washroom Equipment, Inc.

200 Commerce Dr, Clifton Park, NY 12065 PHONE: (518) 877-7444 FAX: (518) 877-6462 WEB: www.bobrick.com

Bomac, Inc.

6477 Ridings Road, Unit 2, Syracuse NY 13206 PHONE: (315) 433-9181 FAX: (315) 433-1910 WEB: www.bomacinc.com

Bo-Mer Plastics

13 Pulaski St, Auburn, NY 13021 PHONE: (315) 252-7216 FAX: (315) 252-7450 WEB: www.bo-mer.com

Bond, Schoeneck & King, PLLC

1 Lincoln Ctr, Syracuse, NY 13202 PHONE: (315) 218-8000 FAX: (315) 218-8100 WEB: www.bsk.com

BorgWarner Ithaca, LLC

800 Warren Rd, Ithaca, NY 14850 PHONE: (607) 257-6700 FAX: (607) 257-3359 WEB: www.borgwarner.com

Bowers and Company CPAs, PLLC

120 Madison St, 1700 AXA Tower II, Syracuse, NY 13202 PHONE: (315) 234-1100 FAX: (315) 234-1111 WEB: www.bcpllc.com

Briggs & Stratton Power Products Group

5375 N Main St, Munnsville, NY 13409 PHONE: (315) 495-0100 FAX: (315) 495-0101 WEB: www.ferrisindustries.com

Bristol-Myers Squibb Company

PO Box 4755, Syracuse, NY 13221 PHONE: (315) 432-2000 FAX: (315) 432-2640 WEB: www.bms.com

Brown & Brown Empire State

500 Plum Street, Suite 200, Syracuse, NY 13204 PHONE: (315) 474-3374 FAX: (315) 474-7039 WEB: www.bbempirestate.com

Buckeye Corrugated Inc. BCI - Emp. Div.

151 Midler Park Dr, Syracuse, NY 13206 PHONE: (315) 437-1181 FAX: (315) 437-1351 WEB: www.bcipkg.com

Burrows Paper Corporation

501 W Main St, Little Falls, NY 13365 PHONE: (315) 823-2300 FAX: (315) 823-0867 WEB: www.burrowspaper.com

Byrne Dairy Inc.

PO Box 176, Lafayette, NY 13084 PHONE: (315) 475-2121 FAX: (315) 471-0930 WEB: www.byrnedairy.com

Committed to Innovation, the Community and our Employees

As a part of the Syracuse area for over 40 years, INFICON is a leading developer, manufacturer and supplier of innovative instrumentation, critical sensor technologies and advanced process control software for a variety of high-tech markets and applications.

Our growth is due in large part to our dedicated employees who have been critical to our success and we are proud to support the communities in which they work and live.

We're always on the look-out for talented individuals who are ready to grow with us.

Check out employment opportunities at inficon.com.



www.inficon.com

INFICON is an Equal Opportunity Employer



Strong relationships are always good for business.

At NBT Bank, we're all about helping you get the most out of your partnership with us. Our dedicated relationship managers will get to know your business and connect you with the products and services you need to meet your goals. It's the personal side of business banking—and for businesses big and small, it counts.



Rick Shirtz, Regional President, 315.475.7514

C

C & S Companies

499 Col Eileen Collins Blvd, Syracuse, NY 13212 PHONE: (315) 455-2000 FAX: (315) 455-9667 WEB: www.cscos.com

C.H. Insurance Brokerage Srvcs. Co., Inc. 100 Madison St, Syracuse, NY 13202 PHONE: (315) 234-7500 FAX: (315) 234-7508 WEB: www.chinsurance.cc

C.R. Fletcher Associates

126 N Salina St, Suite 107, Syracuse, NY 13202 PHONE: (315) 471-1000 FAX: (315) 471-6500 WEB: www.crfletcher.com

CADimensions, Inc.

6310 Fly Road, East Syracuse, NY 13057 PHONE: (315) 434-9787 FAX: (315) 434-9782 WEB: www.cadimensions.com

Canastota NC Corp.

121 W Center St, Canastota, NY 13032 PHONE: (315) 697-3200 FAX: (315) 697-2979 WEB: www.cnccorp.org

Carpenter Industries, Inc.

PO Box 888, Syracuse, NY 13206 PHONE: (315) 463-4284 FAX: (315) 463-4051 WEB: www.carpenterindustries.com

Cathedral Candle Company

510 Kirkpatrick St, Syracuse, NY 13208 PHONE: (315) 422-9119 FAX: (315) 478-1610 WEB: www.cathedralcandle.com

Cayuga Community College

Office of Comm. Education & Workforce Dev., 197 Franklin Street, Auburn, NY 13021 PHONE: (315) 255-1743 WEB: www.cayuga-cc.edu

Cayuga Milk Ingredients, LLC

15 Eagle Drive, Auburn, NY 13021 PHONE: (315) 364-0070 FAX: (315) 364-0003 WEB: www.cmingredients.com

Central New York Feeds, Inc.

PO Box 240, Memphis, NY 13112 PHONE: (315) 689-6384 FAX: (315) 689-1298 WEB: www.cnyfeeds.com

Central New York Technology Development Org.

445 Electronics Parkway; Suite 206, Liverpool, NY 13088 PHONE: (315) 425-5144 FAX: (315) 233-1259 WEB: www.tdo.org

CHA Consulting Inc.

441 S Salina St, Syracuse, NY 13202 PHONE: (315) 471-3920 FAX: (315) 471-3569 WEB: www.chacompanies.com

Chobani

147 State Highway 320, Norwich, NY 13815 PHONE: (607) 337-1246 FAX: (607) 847-8847 WEB: www.chobani.com

Clinton's Ditch Cooperative Company Inc.

8478 Pardee Rd., Cicero, NY 13039 PHONE: (315) 699-2695 FAX: (315) 698-2335 WEB: www.clintonsditch.com

Cold Springs R & D

1207 Van Vleck Rd, Syracuse, NY 13209 PHONE: (315) 413-1239 FAX: (315) 413-0456

Commerce Bank

70 Shunpike Road, Springfield, NJ 07081 PHONE: (585) 227-2263 WEB: www.commercebank.com

CONMED

525 French Rd, Utica, NY 13502 PHONE: (315) 797-8375 FAX: (315) 797-0321 WEB: www.conmed.com

Constellation Energy

116 Huntington Avenue, Suite 700, Boston, MA 2116 PHONE: (617) 717-3023 FAX: (443) 213-3615 WEB: www.constellation.com

Cornell University, School of Continuing Education and Summer Sessions

B20 Day Hall, Ithaca, NY 14853 PHONE: (607) 255-4987 FAX: (607) 255-9697 WEB: www.sce.cornell.edu

Corning Incorporated

One Riverfront Plaza, Corning, NY 14831 PHONE: (607) 974-9000 FAX: (607) 974-4604 WEB: www.corning.com

Corporate Fuel Advisors, LLC

10 East 40th St., Suite 3210, New York, NY 10016 PHONE: (646) 572-0431 FAX: (212) 260-2748 WEB: www.corporatefuelpartners.com

Corso's Cookies - The Decorated Cookie Comp.

314 Lakeside Road, Syracuse, NY 13209 PHONE: (315) 487-2111 FAX: (315) 487-4208 WEB: www.corsoscookies.com

Cortland Cable Company, Inc.

PO Box 330, Cortland, NY 13045 PHONE: (607) 753-8276 FAX: (607) 753-3183 WEB: www.cortlandcable.com

Cortland County Chamber of Commerce

37 Church Street, Cortland, NY 13045 PHONE: (607) 756-2814 FAX: (607) 756-4698 WEB: www.cortlandchamber.com

Cortland Plastics International

211 Main Street, Cortland, NY 13045 PHONE: (607) 662-0120 FAX: (607) 662-0139 WEB: www.cortlandplastics.com

Covanta Onondaga, LP

5801 Rock Cut Rd, Jamesville, NY 13078 PHONE: (315) 498-4111 FAX: (315) 498-9892 WEB: www.covanta.com

Covey Computer Software, Inc.

PO Box 4637, Utica, NY 13504 PHONE: (315) 738-6016 WEB: www.coveycs.com

CPP (Consolidated Precision Prod.) - Syracuse

901 E Genesee St, Chittenango, NY 13037 PHONE: (315) 687-0014 FAX: (315) 687-0023 WEB: www.cppcorp.com

CPP-Steel Treaters, Inc.

100 Furnace Street, Oriskany, NY 13424 PHONE: (315) 736-3081 FAX: (518) 274-8849 WEB: www.steeltreaters.com

CPS Recruitment, Inc. 904 7th North St., Liverpool, NY 13088

PHONE: (315) 457-2500 FAX: (315) 457-1400 WEB: www.cpsrecruiter.com

Crown Industrial Corp.

839 Route 13, Cortland, NY 13045 PHONE: (607) 299-4787 WEB: www.crownindustrial.biz

Crucible Industries LLC

575 State Fair Blvd, Syracuse, NY 13209 PHONE: (315) 487-0800 FAX: (315) 487-4028 WEB: www.crucible.com

Cryomech, Inc.

113 Falso Dr, Syracuse, NY 13211 PHONE: (315) 455-2555 FAX: (315) 455-2544 WEB: www.cryomech.com

Currier Plastics, Inc.

101 Columbus St, Auburn, NY 13021 PHONE: (315) 255-1779 FAX: (315) 252-6443 WEB: www.currierplastics.com

Custom Tool & Model Corp.

151 Industrial Dr, Frankfort, NY 13340 PHONE: (315) 894-4377 FAX: (315) 894-6168 WEB: www.ctm-corp.com

CXtec

PO Box 4799, Syracuse, NY 13221 PHONE: (315) 476-3000 FAX: (315) 455-1800 WEB: www.cxtec.com

Cyber Defense Institute, Inc.

801 Kimry Moor, Fayetteville, NY 13066 PHONE: (315) 632-4848 FAX: (315) 632-4848 WEB: www.cyberD.us

D

Dannible & McKee, CPAs 221 S Warren St, Syracuse, NY 13202 PHONE: (315) 472-9127 FAX: (315) 472-0026 WEB: www.dmcpas.com

Data Power, Inc.

8417 Oswego Rd (PMB - 236) UPS, Baldwinsville, NY 13027 PHONE: (315) 635-1895 FAX: (315) 753-0930

Davis-Standard, LLC

46 N 1st St, Fulton, NY 13069 PHONE: (315) 598-7121 FAX: (315) 593-0206 WEB: www.davis-standard.com

Delmonico Insurance Agency

906 Spencer St., Suite 206, Syracuse, NY 13204 PHONE: (315) 472-4242 FAX: (315) 425-7010 WEB: www.delmonicoinsurance.com

Dermody, Burke & Brown, CPAs, LLC

443 N Franklin St, Suite 100, Syracuse, NY 13204 PHONE: (315) 471-9171 FAX: (315) 471-8555 WEB: www.dbandb.com

Dewitt Plastics Inc.

28 Aurelius Ave, Auburn, NY 13021 PHONE: (315) 255-1209 FAX: (315) 253-4295 WEB: www.rpmindustriesinc.com

Diemolding Corporation

PO Box 26, Wampsville, NY 13163 PHONE: (315) 363-4710 FAX: (315) 361-5343 WEB: www.diemolding.com

Dimanco, Inc.

200 Seward Ave, Utica, NY 13502 PHONE: (315) 797-0470 FAX: (315) 797-0058 WEB: www.divinebrothers.com

Direct Energy Business

115 Solar Street; Suite 102, Syracuse, NY 13204 PHONE: (315) 234-5360 WEB: www.business.directenergy.com **Diversified Wealth Strategies, LLC.** 5760 Commons Park Dr, Suite 100, E Syracuse, NY 13057 PHONE: (315) 579-8890 FAX: (315) 446-5002 WEB: www.divwealth.com

D-K Manufacturing Corp.

PO Box 600, Fulton, NY 13069 PHONE: (315) 592-4327 FAX: (315) 593-2252 WEB: www.d-kmfg.com

Downtown Decorations Inc.

6724 Joy Rd, East Syracuse, NY 13206 PHONE: (877) 369-6332 FAX: (315) 432-1948 WEB: www.downtowndecorations.com

Dresser-Rand Company

37 Coats Street, Wellsville, NY 14895 PHONE: (585) 596-3100 FAX: (585) 596-3710 WEB: www.dresser-rand.com

Dupli Envelope & Graphics Corp.

PO Box 11500, Syracuse, NY 13218 PHONE: (315) 472-1316 FAX: (315) 422-3637 WEB: www.duplionline.com

Dynamic Pak, LLC

102 W Division St, Syracuse, NY 13204 PHONE: (315) 474-8593 FAX: (315) 474-8795 WEB: www.dpthermoforming.com

___E

Eagle Metalcraft, Inc.

3550 Burnet Ave, East Syracuse, NY 13057 PHONE: (315) 437-8323 FAX: (315) 437-4188 WEB: www.eaglemetalcraft.com

Eaton Crouse-Hinds LLC

PO Box 4999, Syracuse, NY 13221 PHONE: (315) 477-7000 FAX: (315) 477-5237 WEB: www.crouse-hinds.com

EEP Quality Group, Inc., Rochester

550 Mile Crossing Blvd., Suite 4, Rochester, NY 14624 PHONE: (315) 200-2449 FAX: (315) 214-5487 WEB: www.eepqualitygroup.com

EEP Quality Group, Inc., Syracuse

404 North Midler Avenue, Syracuse, NY 13206 PHONE: (315) 214-5487 FAX: (315) 214-5487 WEB: www.eepqualitygroup.com

EJ USA, Inc.

PO Box 842907, Boston, MA 2284 PHONE: (315) 699-2601 FAX: (315) 699-2982 WEB: www.ejco.com

EMCom, Inc.

62 Columbus St, Auburn, NY 13021 PHONE: (315) 255-5300 FAX: (315) 255-5311 WEB: www.em-com.com

Empower Federal Credit Union

1 Member Way, Syracuse, NY 13212 PHONE: (315) 477-2200 FAX: (315) 477-0718 WEB: www.empowerfcu.com

Environmental Resources Management

5788 Widewaters Parkway, Syracuse, NY 13214 PHONE: (315) 445-2554 FAX: (315) 445-2543 WEB: www.erm.com

Eraser Company, Inc.

PO Box 4961, 123 Olivia Drive, Syracuse NY 13221 PHONE: (315) 454-3237 FAX: (315) 454-3090 WEB: www.eraser.com

Excel Machine Technologies

50 Bermar Park, Suites 5 & 6, Rochester, NY 14624 PHONE: (585) 426-1911 FAX: (888) 893-7357 WEB: www.emtcnc.com

Excellus BlueCross BlueShield, Utica Reg.

12 Rhoads Dr, Utica Business Park, Utica NY 13502 PHONE: (315) 798-4200 FAX: (315) 792-9759 WEB: www.excellusbcbs.com

Excellus BlueCross BlueShield, CNY Reg.

333 Butternut Dr, Syracuse, NY 13214 PHONE: (315) 671-6400 FAX: (315) 448-4922 WEB: www.excellusbcbs.com

Excellus Health Plan, Inc.

3111 Winteon Road South, Rochester, NY 14623 PHONE: (585) 454-1700 FAX: (585) 238-3633 WEB: www.excellusbcbs.com

F

Falso Industries, Inc.

4100 New Court Ave, Syracuse, NY 13206 PHONE: (315) 463-0266 FAX: (315) 463-5193 WEB: www.falsoindustries.com

Falvo Manufacturing Co., Inc.

20 Harbor Point Rd, Utica, NY 13502 PHONE: (315) 724-7925 FAX: (315) 724-5830 WEB: www.woodengoods.com

FAME (Finger Lakes Advanced Mfging Enterprise)

41 Lewis St, Suite 104, Geneva, NY 14456 PHONE: (315) 521-7826 FAX: (315) 789-0163 WEB: www.nyfame.org

YOU CAN GET THERE FROM SYR

- 17 Non-stop destinations
- Free terminal-wide wi-fi
- New concessions and stores
- ► TSA Pre-√ enrollment center and security line

SYRAC

INTERNATIONAL AIR

Event spaces available for rent

FLYSYRACUSE.COM





Feldmeier Equipment Inc.

PO Box 474, 6800 Town Line Road, Syracuse, NY 13211 PHONE: (315) 454-8608 FAX: (315) 454-3701 WEB: www.feldmeier.com

Felix Schoeller North America

PO Box 250, Pulaski, NY 13142 PHONE: (315) 298-5133 FAX: (315) 298-8800 WEB: www.Felix-Schoeller.com

Filtertech, Inc.

PO Box 527, Manlius, NY 13104 PHONE: (315) 682-8815 FAX: (315) 682-8825 WEB: www.filtertech.com

Finger Lakes Technologies Group

7890 LeHigh Crossing, Victor, NY 14564 PHONE: (800) 653-6124 WEB: www.fltg.com

Firley, Moran, Freer & Eassa, CPA, P.C.

5010 Campuswood Drive, Suite 4, East Syracuse, NY 13057 PHONE: (315) 472-7045 FAX: (315) 472-7053 WEB: www.fmfecpa.com

First Niagara Bank

100 Clinton, Syracuse, NY 13202 WEB: www.firstniagara.com

First Niagara Risk Management

126 N Salina St Suite 400, Syracuse, NY 13201 PHONE: (315) 461-1282 FAX: (315) 451-3009 WEB: www.FirstNiagara.com

Five Star Occ-Med

P.O. Box 248, Ellicottville, NY 14731 PHONE: (315) 478-1977 FAX: (315) 475-2909 WEB: www.industrialmedical.com

Fluid Power Sales, Inc.

8257 Loop Rd., Baldwinsville, NY 13027 PHONE: (315) 638-7111 FAX: (315) 638-7117 WEB: www.fluidpowersales.com

Frazer & Jones Company

PO Box 4955, Syracuse, NY 13221 PHONE: (315) 468-6251 FAX: (315) 468-3676 WEB: www.frazerandjones.com

Freed Maxick CPAs, P.C. a McGladrey Alliance Firm Member

100 Meridian Center, Suite 310, Rochester, NY 14618 PHONE: (585) 360-1426 FAX: (585) 271-1410 WEB: www.freedmaxick.com

Fulton Companies

PO Box 257, Pulaski, NY 13142 PHONE: (315) 298-5121 FAX: (315) 298-6390 WEB: www.fulton.com

Fust Charles Chambers LLP

5784 Widewaters Pkwy, Syracuse, NY 13214 PHONE: (315) 446-3600 FAX: (315) 446-3899 WEB: www.fcc-cpa.com

G

G.A. Braun, Inc.

PO Box 3029, Syracuse, NY 13220 PHONE: (315) 475-3123 FAX: (315) 475-4130 WEB: www.gabraun.com

GE Inspection Technologies

721 Visions Drive, Skaneateles, NY 13152 PHONE: (315) 554-2000 FAX: (315) 554-5744 WEB: www.geinspectiontechnologies.com

Gilberti, Stinziano, Heintz & Smith P.C.

555 E Genesee St, Syracuse, NY 13202 PHONE: (315) 442-0100 FAX: (315) 442-0106 WEB: www.gilbertilaw.com

Giovanni Food Company, Inc.

6050 Court Street Road, Syracuse, NY 13206 PHONE: (315) 457-2373 FAX: (315) 457-2837 WEB: www.giovannifoods.com

Gleason-Avery

45 Aurelius Ave, Auburn, NY 13021 PHONE: (315) 253-7396 FAX: (315) 253-8344 WEB: www.gleasonavery.com

GLOBALFOUNDRIES

400 Stone Break Road Ext., Malta, NY 12020 PHONE: (518) 305-9013 FAX: (518) 305-6589 WEB: www.globalfoundries.com

Golden Artist Colors, Inc.

188 Bell Rd, New Berlin, NY 13411 PHONE: (607) 847-6154 FAX: (607) 847-6767 WEB: www.goldenpaints.com

Greater Binghamton Chamber of Commerce

49 Court St, Binghamton, NY 13901 PHONE: (607) 772-8860 FAX: (607) 722-4513 WEB: www.binghamtonchamber.com

Greystone Environmental Management, LLC

209 Second Street, Liverpool, NY 13088 PHONE: (315) 263-3183 FAX: (518) 682-2202 WEB: www.greystone-env.com

Gryphon Sensors, LLC

7502 Round Pond Road, North Syracuse, NY 13212 PHONE: (800) 742-0451 WEB: www.gryphonsensors.com

H.P. Neun Co., Inc 100 Dunn Rd, Lyons, NY 14489 PHONE: (585) 388-1360 FAX: (585) 388-0184 WEB: www.hpneun.com

H.W. Naylor Co., Inc. 121 Main St, Morris, NY 13808 PHONE: (607) 263-5145 FAX: (607) 263-2416 WEB: www.drnaylor.com

Harden Furniture Co. 8550 Mill Pond Way, Mc Connellsville, NY 13401 PHONE: (315) 245-1000 FAX: (315) 245-2884 WEB: www.harden.com

Haun Welding Supply Inc.

5921 Court Street Rd, Syracuse, NY 13206 PHONE: (315) 463-5241 FAX: (315) 463-0884 WEB: www.thehaunedge.com

Haylor, Freyer & Coon, Inc. PO Box 4743, Syracuse, NY 13221 PHONE: (315) 451-1500 FAX: (315) 703-87

PHONE: (315) 451-1500 FAX: (315) 703-8161 WEB: www.haylor.com

Hayner Hoyt Corporation

625 Erie Blvd West, Syracuse, NY 13204 PHONE: (315) 455-5941 FAX: (315) 454-8204 WEB: www.haynerhoyt.com

HCR Home Care

85 Metro Park, Rochester, NY 14623 PHONE: (585) 295-6444 FAX: (585) 272-8871 WEB: www.HCRHealth.com

Hollowick, Inc.

100 Fairgrounds Drive, Manlius, NY 13104 PHONE: (315) 682-2163 FAX: (315) 682-6948 WEB: www.hollowick.com

Honeywell

301 Plainfield Rd Suite 330, Syracuse, NY 13212 PHONE: (315) 552-9700 FAX: (315) 552-9780 WEB: www.honeywell.com

Huhtamaki Consumer Packaging

100 State St, Fulton, NY 13069 PHONE: (315) 593-5311 FAX: (315) 593-5190 WEB: www.us.huhtamaki.com

Human Technologies Corporation

2260 Dwyer Ave, Utica, NY 13501 PHONE: (315) 724-9891 FAX: (315) 724-9896 WEB: www.htcorp.net

Hummel's Office Plus

PO Box 351, Herkimer, NY 13350 PHONE: (800) 765-4866 FAX: (800) 673-3747 WEB: www.hummelsop.com

ICS Solutions Group

2518 Erie Blvd E, Syracuse, NY 13224 PHONE: (315) 446-5321 FAX: (607) 341-4483 WEB: www.icsnewyork.com

Indian Springs Manufacturing Co., Inc.

PO Box 469, Baldwinsville, NY 13027 PHONE: (315) 635-6101 FAX: (315) 635-7473 WEB: www.indiansprings.com

Indium Corp. of America

34 Robinson Road, Clinton, NY 13323 PHONE: (315) 853-4900 FAX: (315) 853-1000 WEB: www.indium.com

Industrial Fabricating Corp.

6201 E Molloy Rd, East Syracuse, NY 13057 PHONE: (315) 437-3353 FAX: (315) 437-4075

INFICON Inc.

2 Technology Place, East Syracuse, NY 13057 PHONE: (315) 434-1100 FAX: (315) 437-3803 WEB: www.inficon.com

Instron Corporation

33 Lewis Rd, Binghamton, NY 13905 PHONE: (607) 770-4945 FAX: (607) 770-0028 WEB: www.instron.com

Integrated Strategic Systems, Inc.

6925 Todd Way, Liverpool, NY 13088 PHONE: (315) 453-4066 FAX: (315) 451-8355 WEB: www.issyscny.com

Interface Performance Materials

2885 State Route 481, Fulton, NY 13069 PHONE: (315) 592-8100 FAX: (315) 592-8481 WEB: www.sealinfo.com

International Controls & Measurements Corp.

7313 William Barry Blvd., N. Syracuse, NY 13212 PHONE: (315) 233-5266 WEB: www.icmcontrols.com

International Wire Group Inc.

12 Masonic Ave, Camden, NY 13316 PHONE: (315) 245-3800 FAX: (315) 245-1916 WEB: www.internationalwiregroup.com

Intertek Testing Services 3933 U.S. Route 11 Industrial Park, Cortland, NY 13045 PHONE: (607) 753-6711 FAX: (607) 756-9891 WEB: www.intertek.com

IT Performance, LLC 9113 Whistling Swan Lane, Manlius, NY 13104 PHONE: (317) 331-3148

ITT Goulds Pumps, Inc. 240 Fall St., Seneca Falls, NY 13148 PHONE: (315) 568-2811 WEB: www.gouldspumps.com

ITT Industrial Process

240 Fall St, Foundry, Seneca Falls NY 13148 PHONE: (315) 568-2811 FAX: (315) 568-7108

ITT Technical Institute

235 Greenfield Pkwy, Liverpool, NY 13088 PHONE: (315) 461-8000 FAX: (315) 461-8008 WEB: www.itt-tech.edu

IV4

344 West Genesee St, Suite 103, Syracuse, NY 13202 PHONE: (315) 424-7736 FAX: (315) 424-7738 WEB: www.iv4.com

J.E. Miller, Inc.

747 W Manlius St, East Syracuse, NY 13057 PHONE: (315) 437-6811 FAX: (315) 463-4597 WEB: www.jemiller.com

Jamestown Container

82 Edwards Deming Drive, Rochester, NY 14606 PHONE: (800) 937-0028 WEB: www.jamestowncontainer.com

JAS Recruitment

100 Metropolitan Park Dr., Suite 600, Liverpool, NY 13088 PHONE: (315) 299-7168 FAX: (270) 514-0456 WEB: www.jasrecruitment.com

Jefferson County IDA

800 Starbuck Ave, Suite 800, Watertown, NY 13601 PHONE: (315) 782-5865 FAX: (315) 782-7915 WEB: www.jcida.com

JMA Wireless

PO Box 678, Liverpool, NY 13088 PHONE: (315) 431-7100 WEB: www.jmawireless.com

Johnson Controls

105 Twin Oaks Drive, Syracuse, NY 13206 PHONE: (315) 463-2613 WEB: www.johnsoncontrols.com

Κ

KBM Management

5860 Heritage Landing Drive, E. Syracuse, NY 13057 PHONE: (315) 449-0229 FAX: (315) 449-3115 WEB: www.kbmmanagement.com

Key Bank N.A.

PO Box 4899, Syracuse, NY 13221 PHONE: (315) 470-5000 FAX: (315) 470-5369 WEB: www.key.com

KIK Custom Products

37 Huntington St, Cortland, NY 13045 PHONE: (607) 753-6746 FAX: (607) 756-0622 WEB: www.mariettacorp.com

Kilian Manufacturing Corp.

PO Box 6974, Syracuse, NY 13217 PHONE: (315) 432-0700 FAX: (315) 432-1312 WEB: www.kilianbearings.com

Kishmish, Inc

217 Montgomery Street, 8th Floor, Syracuse NY 13202 PHONE: (315) 478-8172 FAX: (800) 375-3951 WEB: www.kishmish.com

Klein Steel Service Inc.

105 Vanguard Pkwy, Rochester, NY 14606 PHONE: (585) 328-4000 FAX: (315) 454-3645 WEB: www.kleinsteel.com

Knowles Capacitor Comp.

2777 Route 20 East, Cazenovia, NY 13035 PHONE: (315) 655-8710 FAX: (315) 655-8179 WEB: www.dilabs.com

Kris-Tech Wire Company, Inc.

PO Box 4377, Rome, NY 13442 PHONE: (315) 339-5268 FAX: (315) 339-5277 WEB: www.kristechwire.com

Le Moyne College

1419 Salt Springs Rd, Mitchell Hall MI 102, Syracuse NY 13214 PHONE: (315) 445-4120 FAX: (315) 445-4691 WEB: www.lemoyne.edu

Liftech Equipment Co., Inc.

6847 Ellicott Dr, East Syracuse, NY 13057 PHONE: (315) 463-7333 FAX: (315) 463-6971 WEB: www.liftech.com

Lockheed Martin

PO Box 4840, Syracuse, NY 13221 PHONE: (315) 456-0123 FAX: (315) 456-0678 WEB: www.lockheedmartin.com

Μ

M & W Aluminum Products Inc.

321 Wavel St, Syracuse, NY 13206 PHONE: (315) 414-0005 FAX: (315) 414-0009 WEB: www.mwalum.com

Mackenzie Hughes LLP

PO Box 4967, Syracuse, NY 13221 PHONE: (315) 474-7571 FAX: (315) 474-1216 WEB: www.mackenziehughes.com

MadisonOne

13895 Ingersoll Lane, Sterling, NY 13156 WEB: www.madisonone.net

Manth-Brownell, Inc.

1120 Fyler Rd, Kirkville, NY 13082 PHONE: (315) 687-7263 FAX: (315) 687-6856 WEB: www.manth.com

Marquardt Switches Inc.

2711 Route 20 East, Cazenovia, NY 13035 PHONE: (315) 655-8050 FAX: (315) 655-8042 WEB: www.switches.com

McIntosh Box & Pallet Co. Inc.

5864 Pyle Dr, East Syracuse, NY 13057 PHONE: (315) 446-9350 FAX: (315) 446-5427 WEB: www.mcintoshbox.com

Metal Solutions

1821 Broad Street, Utica, NY 13501 PHONE: (315) 732-6271 FAX: (315) 732-4238 WEB: www.metalsolutionsinc.com

Microwave Filter Company, Inc.

6743 Kinne Street, East Syracuse, NY 13057 PHONE: (315) 438-4700 FAX: (315) 463-1467 WEB: www.microwavefilter.com

Midstate Spring, Inc.

PO Box 850, Syracuse, NY 13206 PHONE: (315) 437-2623 FAX: (315) 437-0796 WEB: www.midstatespring.com

Mitten Manufacturing

PO Box 2877, 5960 Court Street Road, Syracuse NY 13220 PHONE: (315) 437-7563 FAX: (315) 437-0849 WEB: www.mitten.com

Mohawk Ltd.

PO Box 340, Chadwicks, NY 13319 PHONE: (315) 737-7328 FAX: (315) 737-8265 WEB: www.mohawkltd.com

Mohawk Valley Community College

520 Seneca St., Suite 102, Utica, NY 13501 PHONE: (315) 792-5300 FAX: (315) 792-5682 WEB: www.greateruticachamber.org

Mohawk Valley EDGE

584 Phoenix Drive, Rome, NY 13441 PHONE: (315) 338-0393 FAX: (315) 338-5694 WEB: www.mvedge.com

Morse Manufacturing Co., Inc.

PO Box 518, East Syracuse, NY 13057 PHONE: (315) 437-8475 FAX: (315) 437-1029 WEB: www.morsedrum.com

Murphy and Nolan, Inc.

PO Box 6689, Syracuse, NY 13217 PHONE: (315) 474-8203 FAX: (315) 474-8208 WEB: www.murphynolan.com

Ν

N. K. Bhandari, Architecture & Engineering, P.C

1005 W. Fayette St., Suite. 4A, Syracuse, NY 13204 PHONE: (315) 428-1177 FAX: (315) 428-9822 WEB: www.nkbpc.com

National Fuel Resources, Inc.

PO Box 9072, Williamsville, NY 14231 PHONE: (716) 630-6700 FAX: (716) 630-6744 WEB: www.nfrinc.com

National Grid

300 Erie Blvd W, Syracuse, NY 13202 PHONE: (315) 474-1511 FAX: (315) 460-8951 WEB: www.nationalgridus.com

Natrium Products Inc.

PO Box 5465, Cortland, NY 13045 PHONE: (607) 753-9829 FAX: (607) 753-0552 WEB: www.natrium.com

NBT Bank

Mony Tower II, 120 Madison Street - 17th Floor, Syracuse, NY 13202 PHONE: (315) 363-4500 FAX: (315) 363-0319 WEB: www.nbtbank.com

Network Security Associates

5860 Hillcrest Circle, East Syracuse, NY 13057 PHONE: (315) 703-0990 FAX: (928) 222-1450 WEB: www.nsaco.com

New Hope Mills Mfg. 181 York St, Auburn, NY 13021 PHONE: (315) 252-2676 FAX: (315) 282-0720 WEB: www.newhopemills.com

Nixon Gear, Inc.

1750 Milton Ave, Syracuse, NY 13209 PHONE: (315) 488-0100 FAX: (315) 488-0196 WEB: www.gearmotions.com

Northland Communications

1 Dupli Park Drive, 5th Floor, Syracuse NY 13204 PHONE: (315) 624-2273 WEB: www.northland.net

Novelis Corporation

448 County Route 1a, Oswego, NY 13126 PHONE: (315) 349-0121 FAX: (315) 349-0104 WEB: www.novelis.com

Nucor Steel Auburn, Inc.

PO Box 2008, Auburn, NY 13021 PHONE: (315) 253-4561 FAX: (315) 253-8441 WEB: www.nucor.com

NYSERDA

17 Columbia Circle, Albany, NY 12203 PHONE: (518) 862-1090 FAX: (518) 862-1091 WEB: www.nyserda.org

Ο

OBG

PO Box 4873, Syracuse, NY 13221 PHONE: (315) 437-6100 FAX: (315) 463-7554 WEB: www.obg.com

OBG - Liverpool

PO Box 4873, Syracuse, NY 13221 PHONE: (315) 637-2234 FAX: (315) 637-2819 WEB: www.obg.com

OCM BOCES

PO Box 4754, Syracuse, NY 13221 PHONE: (315) 433-2600 FAX: (315) 431-8555 WEB: www.ocmboces.org

OneGroup

706 N. Clinton, Syracuse, NY 13204 PHONE: (315) 457-1830 WEB: www.onegroupus.net

Oneida Air Systems, Inc.

1001 W Fayette St, Syracuse, NY 13204 PHONE: (315) 476-5151 FAX: (315) 476-5044 WEB: www.oneida-air.com

Oneida Nation Enterprises, LLC

2037 Dream Catcher Plaza, Oneida, NY 13421 PHONE: (315) 829-8900 FAX: (315) 829-8938 WEB: www.turningstone.com

Onondaga Community College

4585 W Seneca Tpke, Syracuse, NY 13215 PHONE: (315) 498-2622 FAX: (315) 498-2336 WEB: www.sunyocc.edu

Onondaga County Water Authority

PO Box 4949, Syracuse, NY 13221 PHONE: (315) 455-7061 FAX: (315) 455-6649 WEB: www.ocwa.org

Open Atelier Architects

451 S. Warren Street, Syracuse, NY 13202 PHONE: (315) 200-1560 WEB: www.openatelier.com

Otis Technology

PO Box 582, Lyons Falls, NY 13368 PHONE: (315) 348-4300 FAX: (315) 348-4332 WEB: www.otistec.com

Ρ

Packaging Corp. of America Inc.

4471 Steelway Blvd. S., Liverpool, NY 13090 PHONE: (315) 457-6780 FAX: (315) 457-0630 WEB: www.packagingcorp.com

Pall Trinity Micro

PO Box 2030, 3643 State Route 281, Cortland, NY 13045 PHONE: (607) 753-6041 FAX: (607) 753-9653 WEB: www.pall.com

PaperWorks Industries

8800 Sixty Rd, Baldwinsville, NY 13027 PHONE: (315) 638-4355 FAX: (315) 638-8421 WEB: www.spgroupinc.com

PAR Technology Corp.

8383 Seneca Tpke, New Hartford, NY 13413 PHONE: (315) 738-0600 FAX: (315) 738-0411 WEB: www.partech.com

Pathfinder Bank

214 West First Street, Oswego, NY 13126 PHONE: (315) 343-0057 WEB: www.pathfinderbank.com

Pelco Component Technologies

2747 Route 20 East, Cazenovia, NY 13035 PHONE: (315) 655-8476 FAX: (315) 655-3862 WEB: www.pelcocaz.com

Performance Lacrosse Group Inc.

4697 Crossroads Park Dr, Liverpool, NY 13088 PHONE: (315) 453-3073 FAX: (315) 453-3762 WEB: www.performancesportsgroup.com

Pioneer Warehouse & Distribution LLC

PO Box 2074, Syracuse, NY 13220 PHONE: (315) 451-3101 FAX: (315) 451-1290 WEB: www.pioneerwhs.com

Plumley Engineering, P.C.

8232 Loop Rd, Baldwinsville, NY 13027 PHONE: (315) 638-8587 FAX: (315) 638-9740 WEB: www.plumleyeng.com

PPC Broadband, Inc.

PO Box 278, East Syracuse, NY 13057 PHONE: (315) 431-7200 FAX: (315) 431-7219 WEB: www.ppc-online.com

Pratt & Whitney - HMI Metal Powders

PO Box 294, Clayville, NY 13322 PHONE: (315) 839-5421 FAX: (315) 839-5609 WEB: www.hmipowder.com

Precision Systems Mfg. Inc.

4855 Executive Dr, Liverpool, NY 13088 PHONE: (315) 457-0200 FAX: (315) 451-0988 WEB: www.go-precision.com

Pyramid Brokerage Co., Inc.

PO Box 3, 5786 Widewaters Parkway, Syracuse, NY 13214 PHONE: (315) 445-1030 FAX: (315) 445-2074 WEB: www.pyramidbrokerage.com

Pyrotek Inc.

641 St. Rt. 13, Cortland, NY 13045 PHONE: (607) 756-3050 FAX: (607) 756-3089 WEB: www.pyrotek.info

Q

QPK Design

450 S Salina St, Suite 500, Syracuse, NY 13202 PHONE: (315) 472-7806 FAX: (315) 472-7800 WEB: www.qpkdesign.com

R. B. Woodcraft Inc.

1860 Erie Blvd E, Syracuse, NY 13210 PHONE: (315) 474-2429 FAX: (315) 474-2734 WEB: www.rbwoodcraft.com

Ralph W. Earl

5930 E. Molloy Road, PO Box 2369, Syracuse NY 13211 PHONE: (315) 454-4431 FAX: (315) 454-0977 WEB: www.rwearl.com

Raymond Corporation, The

PO Box 130, 20 S. Canal St., Greene NY 13778 PHONE: (607) 656-2311 FAX: (607) 656-9005 WEB: www.raymondcorp.com

Raymond Corporation, The

6650 Kirkville Rd, East Syracuse, NY 13057 PHONE: (315) 463-5000 FAX: (607) 656-2311 WEB: www.raymondcorp.com

Refrigerated Transport Electronics, Inc.

1 W Center St, Mc Graw, NY 13101 PHONE: (607) 836-8954 FAX: (607) 836-8956 WEB: www.rte-usa.com

Relph Benefit Advisors

400 WillowBrook Office Park, Suite 400, Fairport, NY 14450 PHONE: (585) 248-8720 FAX: (585) 248-2140 WEB: www.relphbenefitadvisors.com

Remington Arms Co., Inc.

14 Hoefler Ave, Ilion, NY 13357 PHONE: (315) 895-3200 FAX: (315) 895-3227 WEB: www.remington.com

Revere Copper Products Inc.

1 Revere Park, Rome, NY 13440 PHONE: (315) 338-2022 FAX: (315) 338-2224 WEB: www.reverecopper.com

Rist Transports Ltd., Div of Wadhams

369 Bostwick Rd, Phelps, NY 14532 PHONE: (315) 789-8871 FAX: (315) 789-8879 WEB: www.risttransport.com

RIT: Center of Excellence for Advanced & Sustainable Mfg./NYS Pollution Prevention Institute

Building 78, Room 2000, 111 Lomb Memorial Drive, Rochester NY 14623 PHONE: (585) 475-2065 WEB: www.rit.edu/gis/cesm

Roberts Office Furniture Concepts, Inc.

7327 Henry Clay Blvd, Liverpool, NY 13088 PHONE: (315) 451-9185 FAX: (315) 451-9325 WEB: www.robertsofc.com

Roth Global Plastics Inc.

PO Box 245, Syracuse, NY 13211 PHONE: (315) 475-0100 FAX: (315) 475-0200 WEB: www.roth-usa.com

Ruston Paving Co., Inc.

6216 Thompson Rd, Syracuse, NY 13206 PHONE: (315) 437-2533 FAX: (315) 437-1775 WEB: www.rustonpaving.com

S

Saab Sensis Corporation 85 Collamer Crossing Pkwy, East Syracuse, NY 13057 PHONE: (315) 445-0550 FAX: (315) 445-9401 WEB: www.saabsensis.com

Sandler Training c/o DB & B 241 West Fayette Street - 4th Fl, Syracuse, NY 13202 PHONE: (315) 451-8797 FAX: (315) 471-2872 WEB: www.peakpm.sandler.com

Schneider Packaging Equipment Co., Inc.

PO Box 890, Brewerton, NY 13029 PHONE: (315) 676-3035 FAX: (315) 676-2875 WEB: www.schneiderequip.com

Selflock Screw Products Co., Inc.

461 E. Brighton Ave., Syracuse, NY 13210 PHONE: (315) 541-4464 FAX: (315) 475-1093 WEB: www.selflockscrew.com

Sellco Industries, Inc.

PO Box 70, Cortland, NY 13045 PHONE: (607) 756-7594 FAX: (607) 756-7511 WEB: www.sellcoinc.com

Seneca

6040 Tarbell Road, Syracuse, NY 13206 PHONE: (315) 433-1160 FAX: (315) 433-0945 WEB: www.senecadata.com

Seneca Savings

35 Oswego Street, PO Box 210, Baldwinsville, NY 13027 PHONE: (315) 638-0233 FAX: (315) 638-9871 WEB: www.senecasavings.com

Solvents & Petroleum Service, Inc.

1405 Brewerton Rd, Syracuse, NY 13208 PHONE: (315) 454-4467 FAX: (315) 454-8230 WEB: www.solventsandpetroleum.com

SRC, Inc.

7502 Round Pond Rd, North Syracuse, NY 13212 PHONE: (315) 452-8000 FAX: (315) 452-8090 WEB: www.srcinc.com

SRCTec

5801 E Taft Rd, North Syracuse, NY 13212 PHONE: (315) 452-8700 FAX: (315) 452-8703 WEB: www.srcinc.com

St. Joseph's Hospital Health Center

301 Prospect Ave, Syracuse, NY 13203 PHONE: (315) 448-5111 FAX: (315) 448-5580 WEB: www.sjhsyr.org

Stafkings

PO Box 1015, Binghamton, NY 13902 PHONE: (607) 772-8080 FAX: (607) 772-6515 WEB: www.stafkings.com

Standard Solar, Inc.

520 White Plains Road, Suite 500, Tarrytown, NY 10591 PHONE: (917) 338-1457 FAX: (301) 944-1202 WEB: www.standardsolar.com

Stickley, Inc., L. & J.G.

PO Box 480, 1 Stickley Dr., Manlius NY 13104 PHONE: (315) 682-5500 FAX: (315) 682-4244 WEB: www.stickley.com

Strathmore Products, Inc.

PO Box 151, Syracuse, NY 13201 PHONE: (315) 488-5401 FAX: (315) 488-2715 WEB: www.strathmoreproducts.com

Sturges Manufacturing Company, Inc.

PO Box 59, Utica, NY 13503 PHONE: (315) 732-6159 FAX: (315) 732-2314 WEB: www.sturgesstraps.com

Sullivan, Bazinet, Bongio, Inc.

1 General Motors Drive, Building 5, Syracuse NY 13206 PHONE: (315) 422-2376 FAX: (315) 437-6501 WEB: www.sbbinc.com

Summer Street Capital Partners LLC

70 W Chippewa St, Suite 500, Buffalo, NY 14202 PHONE: (716) 566-2900 FAX: (716) 566-2910 WEB: www.summerstreetcapital.com

Sunoco Ethanol

376 Owens Rd, Fulton, NY 13069 PHONE: (315) 593-0532 FAX: (877) 885-8971 WEB: www.sunocoethanol.com

SUNY Oswego

7060 State Route 104, Oswego, NY 13126 PHONE: (315) 312-3699 WEB: www.oswego.edu

SUNY Upstate Medical University

750 E Adams St, Syracuse, NY 13210 PHONE: (315) 464-4956 FAX: (315) 464-5275 WEB: www.upstate.edu

Synapse Property Resources

360 Erie Blvd. East, Syracuse, NY 13202 PHONE: (315) 475-3700 FAX: (315) 475-3780 WEB: www.synapsellc.com

Syracuse Hancock International Airport

1000 Col. Eileen Collins Blvd., Syracuse, NY 13212 PHONE: (315) 454-3263 FAX: (315) 454-8757 WEB: www.flysyracuse.com

Syracuse Heat Treating Corp

7055 Interstate Island Rd, Syracuse, NY 13209 PHONE: (315) 451-0000 FAX: (315) 451-3895 WEB: www.syracuseheattreating.com

Syracuse Label & Surround Printing

110 Luther Ave, Liverpool, NY 13088 PHONE: (315) 422-1037 FAX: (315) 422-6763 WEB: www.syrlsp.com

Syracuse Media Group

220 South Warren Street, Syracuse, NY 13202 PHONE: (315) 470-0010 FAX: (315) 470-3081 WEB: www.syracuse.com

Syracuse Plastics LLC

7400 Morgan Rd, Liverpool, NY 13090 PHONE: (315) 637-9881 FAX: (315) 637-9260 WEB: www.syracuseplastics.com

Syracuse University

600 Crouse Hinds Hall, Office of Government and Community Relations, Syracuse NY 13244 PHONE: (315) 443-1870 FAX: (315) 443-4617 WEB: www.syr.edu

Т

TACNY

PO Box 5531, Syracuse, NY 13220 PHONE: (315) 470-6818 WEB: www.tacny.org

Tactair Fluid Controls, Inc.

4806 W Taft Rd, Liverpool, NY 13088 PHONE: (315) 451-3928 FAX: (315) 457-9317 WEB: www.tactair.com

Tect Utica Corporation

2 Halsey Rd, Whitesboro, NY 13492 PHONE: (315) 768-8072 FAX: (315) 768-8005 WEB: www.tectcorp.com

TERACAI

217 Lawrence Road East, Syracuse, NY 13221 PHONE: (315) 883-3500 FAX: (315) 883-3510 WEB: www.teracai.com

Tessy Plastics Corp.

700 Visions Drive, Skaneateles, NY 13152 PHONE: (315) 689-3924 FAX: (315) 685-1539 WEB: www.tessy.com

The Bonadio Group

432 North Franklin Street, Suite 60, Syracuse, NY 13204 PHONE: (315) 476-4004 FAX: (315) 475-1513 WEB: www.bonadio.com

The Jacobs Press, Inc.

PO Box 580, 87 Columbus Street, Auburn NY 13021 PHONE: (315) 252-4861 FAX: (315) 253-3618 WEB: www.jacobspress.com

The Travelers Companies, Inc.

1 Park Place, Suite 400, Albany, NY 12205 PHONE: (518) 454-4921 FAX: (518) 862-7618 WEB: www.travelers.com

Thermold Corporation

7059 Harp Road, Canastota, NY 13032 PHONE: (315) 697-3924 FAX: (315) 697-7177 WEB: www.thermold.com

Thompson & Johnson Equip. Co., Inc.

6926 Fly Rd, East Syracuse, NY 13057 PHONE: (315) 437-2881 FAX: (315) 437-5034 WEB: www.thompsonandjohnson.com

Town Mechanical Inc.

7786 Vicki Ln, Baldwinsville, NY 13027 PHONE: (315) 635-5515 FAX: (315) 638-2224 WEB: www.townmechanical.com

TransAct Technologies Inc-Ithaca Facility

20 Bomax Dr, Ithaca, NY 14850 PHONE: (607) 257-8901 FAX: (607) 257-8922 WEB: www.transact-tech.com

U

Unimar, Inc.

3195 Vickery Road, N. Syracuse, NY 13212 PHONE: (315) 699-4400 FAX: (315) 699-3700 WEB: www.unimar.com

Unison Industries

PO Box 310, Norwich, NY 13815 PHONE: (607) 335-5000 FAX: (607) 335-5440 WEB: www.unisonindustries.com

Universal Metal Works

159 Hubbard St, Fulton, NY 13069 PHONE: (315) 598-7607 FAX: (315) 598-7613 WEB: www.universalmw.com

V

VIP Structures

1 Webster's Landing, Syracuse, NY 13202 PHONE: (315) 471-5338 FAX: (315) 471-5330 WEB: www.vipstructures.com

VisionWorks

6940 Fly Road, E. Syracuse, NY 13057 PHONE: (315) 445-7584 WEB: www.visionworks.com

Visual Technologies Corp.

1620 Burnet Ave, Syracuse, NY 13206 PHONE: (315) 423-2000 FAX: (315) 423-0004 WEB: www.visualtec.com

Volpi USA

5 Commerce Way, Auburn, NY 13021 PHONE: (315) 255-1737 FAX: (315) 255-1202 WEB: www.volpiusa.com

VPN Systems, Inc.

100 Carlson Road, Rochester, NY 14610 PHONE: (585) 624-8365 FAX: (585) 624-4181 WEB: www.vpnsystems.com

W

Waste Management-Recycle America

4550 Steelway Blvd S, Liverpool, NY 13090 PHONE: (315) 461-9323 FAX: (315) 461-8236 WEB: www.wm.com

Weaver Machine and Tool

44 York Street, Auburn, NY 13021 PHONE: (315) 253-4422 WEB: www.weavermachine.com

Welch Allyn, Inc.

PO Box 220, Skaneateles Falls, NY 13153 PHONE: (315) 685-4100 FAX: (315) 685-2409 WEB: www.welchallyn.com

Welliver McGuire, Inc.

250 North Genesee Street, Montour Falls, NY 14865 PHONE: (607) 535-5400 FAX: (607) 535-9254 WEB: www.buildwelliver.com

Werma USA

6731 Collamer Road, East Syracuse, NY 13057 PHONE: (315) 414-0202 FAX: (315) 414-0201 WEB: www.werma.com

WestRock - Solvay Mill

53 Industrial Dr, Syracuse, NY 13204 PHONE: (315) 484-9050 FAX: (315) 484-9233 WEB: www.rocktenn.com

Χ

XTO, Incorporated

110 Wrentham Dr, Liverpool, NY 13088 PHONE: (315) 451-7807 FAX: (315) 451-2687 WEB: www.xtoinc.com

Xylem, Inc.

1 Goulds Dr, Auburn, NY 13021 PHONE: (315) 258-4811 FAX: (315) 258-4874 WEB: unitedstates.xylemappliedwater.combrands/

Υ

Young & Franklin Inc.

942 Old Liverpool Rd, Liverpool, NY 13088 PHONE: (315) 457-3110 FAX: (315) 451-3589 WEB: www.yf.com

Ζ

ZF TRW Automotive, LLC

2150 Cranebrook Dr, Auburn, NY 13021 PHONE: (315) 258-3469 FAX: (315) 253-8747 WEB: www.trw.com

We all play a part . . .



... in growing manufacturing together.

We appreciate your support of MACNY's Publication.

I believe that when hard working people put their minds together, good things happen.

Have your story told as we inspire and celebrate the manufacturers that comprise MACNY.

We welcome you to be a part today.

-Tom Martinelli



For more information on how to be a part, contact: tom@martinellicustompublishing.com

Advertiser Index

Advanced Media Group	42
Auburn Vacuum Forming Co., Inc.	17
Brown & Brown Empire State	18
Carpenter Industries	2
Cathedral Candle Company	17
CHOBANI	14
Commerce Bank	14
CPS Recruitment	28
Direct Energy Business	26
Dynamic Pak, LLC	34
EEP Quality Group	11
Fust Charles Chambers LLP	27
Haylor, Freyer & Coon, Inc.	34
Indium Corporation	60
INFICON Inc.	44
Jamestown Container Companies	4
L. & J.G. Stickley, Inc.	8
Liftech	27
Mohawk Valley Community College	59
NBT Bank	44
National Fuel Resources	36
National Grid	48
Novelis	6
Pathfinder Bank	20
QPK Design	19
Syracuse Hancock Int'l Airport	48
Syracuse Heat Treating Corp.	19
The Fulton Companies	40
The Raymond Corporation	10
Thompson & Johnson Equipment Co.	16

small Unmanned Aerial Systems



Associate in Applied Science (AAS) degree program

From expedited package delivery to agriculture and environmental research, the commercial potential for **small Unmanned Aerial Systems (sUAS)** — **more commonly known as drones** — has only just begun to come into focus. MVCC's sUAS degree program is designed to equip students with the education and training to work and think critically in this lucrative and rapidly developing field.

MVCC's sUAS program has a flexible schedule — including **day and night classes**, **online and classroom instruction, hands-on labs, and field experience**. The interdisciplinary curriculum teaches students to design and build sUAS, as well as mission planning and operations, flight skills, and programming. Ethics, as well as Federal Aviation Administration rules and regulations, will be emphasized. Coursework will explore modeling and fabrication using **MVCC's FABLab**, drafting and design using AutoCAD, electronics, mechanics, and software programming. Students will hone their operation and flight skills on professional equipment in **MVCC's state-of-the-art flight simulator lab.**

Students also will learn about the various applications for sUAS, including:

- Disaster assessment
- Law enforcement/search and rescue
- Photography and videography
- Military use
- Weather reporting

Learn more about sUAS: Online: mvcc.edu/suas Phone: 315.792.5687 Email: wjudycki@mvcc.edu

Employment

According to the Association for Unmanned Vehicle Systems International, the industry is expected to generate an additional 100,000 jobs and \$82.1 billion in economic impact in the next

decade.

Apply today!

Free application: mvcc.edu/apply Phone: 315.792.5354 Email: admissions@mvcc.edu



The Manufacturers Association

5788 Widewaters Parkway Syracuse, NY 13214

Utica's TECHNOLOGY COMPANY®

 IIIII

CORPORATION®

MIETALS SOLDERS THERMAL NANOTECH ELECTRONICS SEMICONDUCTOR

www.indium.com • askus@indium.com