

ANNUAL REPORT

2014-15

Year in Review



To our many stakeholders and partners,

As an early adopter of the public-private partnership engagement model, the University at Buffalo (UB) Center for Industrial Effectiveness (TCIE) has leveraged expertise from the university and its centers, other education and research institutions and economic development resources – such as state and federal government agencies – to support industry since 1987.

We are increasing efforts to develop a stronger workforce and serve the Western New York Regional Economic Development Council's goal of bolstering job readiness. New initiatives over the last year are addressing the disparity between qualified workers and the local manufacturing industry's looming needs. As an aging workforce retires and the market explodes with job opportunities – like the 700 process operator/technician

positions enabled by New York State's \$750 million investment in SolarCity – there is a significant need for training and promoting manufacturing occupations.

A New York State Department of Labor (NYSDOL) grant empowered us to create and deliver a pilot program preparing unemployed workers for production technician and quality inspector roles. The Advanced Manufacturing Quality Specialist (AMQS) Certification Program is featured later in this report.

We also brought the nationally recognized Manufacturing Skill Standards Council (MSSC) program to Western New York. The MSSC is a training, assessment and certification system based on industry-defined and federally-endorsed national standards. As an authorized testing location, TCIE administers exams that measure core competencies required of frontline production workers.

Our heightened emphasis on advanced manufacturing is further solidified in the following acknowledgment of service excellence, expansion and collaboration. We have:

- Received national accreditation as a Six Sigma training and certification provider by the Council for Six Sigma Certification, the official industry standard
- Expanded our professional development course offerings to 25, including supply chain management, Lean product design, and Failure Mode and Effects Analysis, to name a few
- Partnered with community colleges and economic development organizations, leveraging the sum for greater impact and better outcomes

The TCIE team and I are proud to contribute to Western New York's economic upswing and remain committed to creating significant value and elevating enterprise performance.

Sincerely,

Timothy Leyh

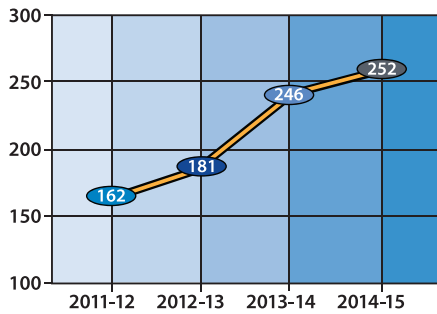
Timothy Leyh
Executive Director

By the Numbers

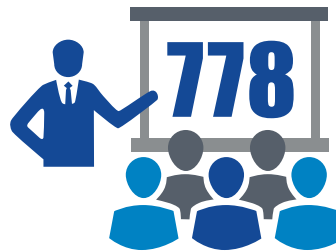
TCIE annually supports hundreds of public and private organizations, connecting them to the expert resources of UB's School of Engineering and Applied Sciences (UB Engineering) to better support and sustain their strategy and execution. Companies are afforded greater access to UB Engineering's resources through the State University of New York's Strategic Partnership for Industrial Resurgence (SPIR) grant, for which TCIE serves as a regional administrator.

The metrics below provide a glimpse into how we are driving continual improvements, strengthening enterprise performance, and igniting innovation and technological advantage.

Business Process Reengineering Projects

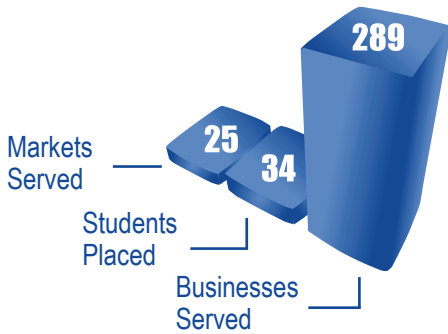


People Trained



Revenue

\$1,219,363



Strategic Partnership for Industrial Resurgence Impact



Our Mission and Values

The mission of TCIE is to be a leader in building the economy, by strengthening businesses and communities through excellence in service.

Our approach is to be a leading university extension service organization recognized for collaborating with diverse partners and providing a broad array of programming for our stakeholders.

Integrity

Building our reputation by being

- Accountable
- Ethical
- Credible
- Respectful

Service

Delivering results and fostering diversity by being

- Responsive
- Providing solutions
- Adding value
- Collaborating

Excellence

Exceeding stakeholder expectations by

- Achieving results
- Demonstrating leadership
- Leveraging our resources and expertise

Innovation

Fostering a culture of creativity by embracing

- Change
- Risk-taking
- Lifelong learning

Lake Region Medical

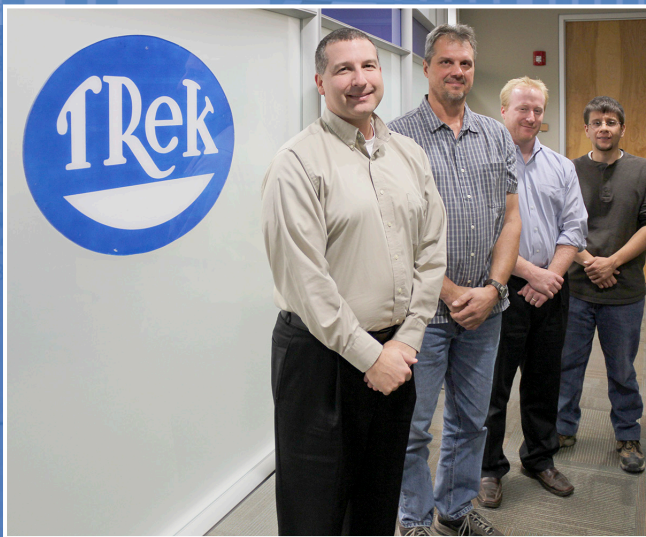
The Orchard Park, NY, site of global medical device manufacturer Lake Region Medical once had a pack-it-in approach to making operational improvements. Teams of employees assembled for five days, got to work making changes, and abandoned half-baked projects when the week was over.

But a corporate-wide effort to apply the Lean methodology of reducing waste – as a standard practice – triggered facility leaders to reset their strategy. Training and guidance from TCIE is helping to instill a culture of continuous improvement where initiatives don't have an assigned end date and all are encouraged to challenge the status quo. There is a wait list of employees who are eager to learn tools to support the company's production goals.



“People challenge things more today than they did before. There are more ideas. There's more awareness. There's more trust.”

Joseph Liberti, Human Resource Manager



TREK, INC.

When electronic instruments maker TREK, INC., outgrew its headquarters in Medina, NY, leaders resolved to prime the new facility for operational success. They contacted TCIE to obtain “far superior” expertise in optimal layout design than was possible with internal resources strapped for time.

With aid from a New York State economic development program (the Strategic Partnership for Industrial Resurgence grant, known as SPIR), work completed by a UB Engineering professor and students impacted the decision to lease part of the former Harrison Radiator building in Lockport. The UB team's thorough approach and flexibility were so impressive that university resources and SPIR were tapped for another project, this time helping to determine the future location and facility layout of subsidiary supplier Torrent EMS.

“They did an outstanding job. I was very impressed with them – the presentation they came in with, the details, and the studies they did. They were easy to work with. All around, it was a positive experience.”

Ron Reigle, Production Engineering Supervisor

SR Instruments

SR Instruments of Tonawanda, NY, continually works to broaden its custom scale products. One idea – an all-in-one device for doctor and home healthcare visits that records vital signs and other body functions – has been discussed for years. When company leaders decided to develop the concept, they needed someone with a blank slate, no tribal knowledge, problem-solving abilities and biological/medical insight.

Through the TCIE Engineering Fellows Program, a UB biomedical engineering graduate student is researching the non-invasive technology market. Her work is helping to answer the questions “How can we build a durable product that meets federal guidelines?” and “How can our technology be less invasive than the competitors?”



“It’s been a good partnership because she gets real-world experience and we get a bunch of research that we’re now going to try to leverage.”

John Siegel, President

Vader Systems



Only a few years ago Scott Vader and son Zachary began tinkering in a complicated liquid metal jet printing technology known as MHD. Today, the East Amherst, NY, residents are optimizing their direct-to-metal 3D printer for their first customer, Lockheed Martin. Vader Systems is part of the START-UP NY program and a semi-finalist in the 2015 43North business idea competition.

The Vaders attribute much of their development to UB’s guidance and support. As the initial enabler, TCIE provided assistance from a UB Engineering professor and graduate engineering students to solve technical issues. TCIE also made connections to other university resources, which led the father-son team to leverage various entrepreneurial opportunities.

“TCIE was very welcoming, enthusiastic, supportive and thoughtful. We don’t know what’s available. At first it was a smorgasbord (of program and grant options). Our heads were swimming. But they stuck with us and were patient with us, and talked us through it all.”

Scott Vader, President

UB Engineering



UB is a premier research-intensive public university and a flagship institution in the 64-campus State University of New York (SUNY) system. UB Engineering, led by Dean Liesl Folks, is the largest and most comprehensive public school of engineering in New York. Annual research expenditures are \$60 million and the school's per faculty research expenditure places it in the top 10 percent of U.S. engineering schools.

The engineering departments are: Biomedical; Chemical and Biological; Civil, Structural and Environmental; Computer Science; Electrical; Industrial and Systems; Materials Design and Innovation (a collaborative effort with the College of Arts and Sciences); and Mechanical and Aerospace.

TCIE and UB Engineering support a university-wide initiative to boost the number of students who participate in experiential learning opportunities. Our three placement options – Graduate Student Engineering Projects, the Black Belt Certification Program and the Engineering Fellows Program – assist industry with solving problems and often lead to local employment opportunities upon graduation.

TCIE'S Toolbox



Engineering Solutions

TCIE serves as a gateway to accessing high-quality research and development ventures provided through distinct faculty, talented students and state-of-the-art testing labs from all UB Engineering disciplines. Our technical assistance includes services such as facility layout and workflow analysis, finite element analysis and systems engineering.



Operational Excellence

TCIE's skilled resource teams are highly effective agents, stressing a systemic and data-driven approach. A sampling of our services includes strategic planning, assessing gaps and identifying improvement opportunities, translating data, and implementing ISO, Lean and Six Sigma methodologies.



Professional Development

Facilitators with broad industry experience lead business improvement programs that range from workshops to certification courses. Engagement options include public enrollment and corporate contracts, through the formats of classroom-based learning, a blend of class and web-based learning, or a one-on-one approach of online education with private mentoring.



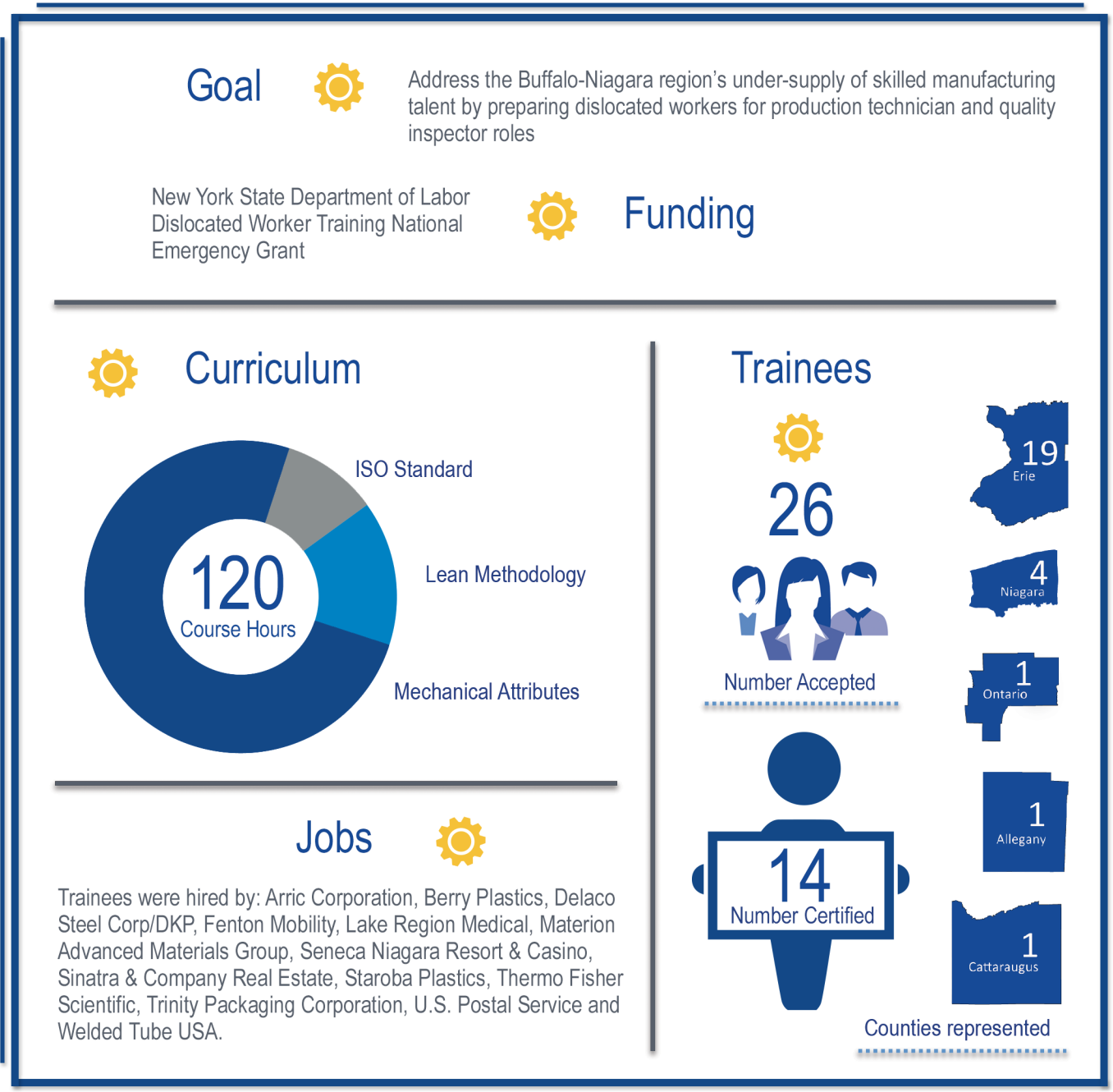
Strategic Partnership for Industrial Resurgence (SPIR)

SPIR helps pay for technical expertise needed by New York State companies with fewer than 500 employees. Grant funds subsidize faculty and/or student projects, such as developing an innovation, introducing new technologies, or advancing product development and testing.

Boosting Manufacturing Talent

Unemployed individuals from Western New York were equipped with the skills and knowledge required of entry- to mid-level manufacturing positions through TCIE's Advanced Manufacturing Quality Specialist (AMQS) Certification Program. The training was free to attendees, thanks to federal funding. Specifically, the AMQS Certification Program prepared students for the positions of inspectors, testers, sorters, samplers and weighers (O*NET code 51-9061.00), as well as electro-mechanical technicians (O*NET code 17-3024.00).

The infographic below provides an overview of the AMQS Certification Program and its impact.



UB Center for Industrial Effectiveness
University at Buffalo *The State University of New York*



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