



TO: Members of the New York Education Reform Commission

FROM: Randy Wolken, President

DATE: August 11, 2012

RE: Written Testimony for the August 14, 2012 Hearing in Syracuse

As president of the Manufacturers Association of Central New York, an organization representing 330 employers in a 20 county area, as well as the President of the Manufacturing Alliance of New York, an alliance of several manufacturing associations in New York State that represent 1500 companies, I am committed to promoting innovative, effective pipeline strategies that will impact the number of qualified applicants in the talent pool in our region and state.

In addition, I am a member of the Governor's Regional Economic Development Council for Central New York; and, a partner in the Central New York STEM Hub, part of the Empire State STEM Learning Network, which is a partnership between the State University of New York and Battelle.

The CNY Hub is stewarded by Partners for Business & Education, an affiliate of MACNY, and includes partners from East Syracuse Minoa School District, the Syracuse City School District, Syracuse University, SUNY ESF, Onondaga Community College, LeMoyne College, Siemens, SRC, Inc., National Grid, TACNY (Technology Alliance of Central New York), the Museum of Science & Technology (MOST) and several other school districts, companies and community organizations.

In my testimony, I intend to address the following:

- as a member of the business community, speak to the need for business and education leaders to be in complete alignment regarding the needs of the future workforce and innovative solutions to address a growing skills gap crisis.
- provide information on promising efforts underway in this region and across New York State to support manufacturing and the workforce as a whole, especially through our affiliation with **Partners for Education & Business (PEB)**
- support for the growing partnership with the Empire STEM Learning Network through the CNY STEM Hub

Workforce Needs

- Manufacturing in New York State: Manufacturing is and will continue to be a vital industry for New York. The sector accounted for 457,000 jobs in 2010 and remains one of the highest paying industries in the state, with manufacturing employees making an average annual compensation of \$70,445. A large share of employment is concentrated in the following sectors: computers and electronics, food, fabricated metals, machinery, and chemicals.

Completion of a degree or postsecondary credential with value in the workplace remains a strategy in meeting the workforce needs of New York's manufacturers. New York's 45 public community and technical colleges enroll almost 450,000 students annually, with a completion rate of just over 22%. Compounding deficient performance in postsecondary institutions is a high school dropout rate of over 35%.

- *"Shortage of skilled workers leaves 10 million jobs unfilled, report says: Economic growth rests with skilled workforce".... By Alejandra Cancino, Chicago Tribune reporter*
Craig Giffi, co-author of the report, said in a statement. "The skills gap that exists today will not likely close in the near future, which means companies and countries that can attract, develop and retain the highest skilled talent — from scientists, researchers and engineers to technicians and skilled production workers — will come out on top."

As a result of that gap, companies are delaying or abandoning growth plans, hiring overqualified candidates for certain jobs or importing labor, according to the report, "The Future of Manufacturing: Opportunities to Drive Economic Growth." In some countries, labor shortages have led to higher wages and inflation.

The lack of skilled workers is not new. In the U.S., about **600,000 jobs** in manufacturing remain unfilled, a situation that is expected to get worse in the next three to five years as older workers retire. Manufacturers in Illinois have developed their own training programs and are partnering with state and local governments, manufacturing associations, high schools and colleges to improve education in science, technology, engineering and mathematics, which are key to landing jobs in today's manufacturing sector.

- *"There are growing shortages of skilled employees ... as for the 2/3 of jobs not requiring advanced education, too many applicants aren't qualified even for them...60% of businesses say it's getting more and more difficult to find qualified workers...this problem is **expected to get worse** as the economy improves..."*

"Interest in science, technology, engineering and math falls short of employers' needs.....For a nation that relies heavily upon technology and innovation for its economic strength, these reports underscore America's vulnerable standing as a world economic leader."

- The Kiplinger Letter

The problem will get progressively worse, hitting a wider group of companies, now that the economy has begun to improve and total U.S. employment likely to grow by about 1 million jobs in the coming year. Adding to the shortage: The most educated and skilled

workers are starting to retire. Plus, too few students are interested in pursuing the science, technology, engineering and math skills that employers need. A skilled labor force is key to remaining competitive in a global economy, and the U.S. is falling behind.

There is ample information from regional, state and national sources, pointing to the crisis in education and the emerging workforce. Annual reports from ACT about the lack of college/work readiness, numerous studies (e.g., Gates Foundation), frequent op-ed articles, and the plethora of data about the crisis with the drop out rates and lack of completion of post-secondary programs, underscore the need for more drastic strategies to address the crisis.

In response, the Gates Foundation has funded a STEM (Science, Technology, Engineering, Math) initiative across the country, including New York State because, as it has been described by Dr Shirley Jackson, President of RPI, as the “quiet crisis” in the USA. PEB-MACNY has become the co-leader with Dr Donna DeSiato of ESM to implement a strategic plan for the CNY STEM Hub which was launched in October 2011.

Finally, with the drastic reductions in school funding, career-related education and programming has been compromised and the business community needs your help in continuing this critically important work

Strategies/ Solutions

PEB became an affiliate of MACNY in July 2010 and the vision that each organization would realize mutually beneficial and sustainable outcomes is becoming a reality. The PEB mission calls for promoting, developing and coordinating the involvement of business, employers, schools, post-secondary institutions and workforce development organizations to educate our incumbent and emerging workforce to become work ready, skilled and contributing members of our society. The PEB-MACNY affiliation is playing an active role in local and regional education/workforce development collaborations to support individuals, MACNY members *and* community needs.

The partnership with PEB has increased MACNY’s capacity to strengthen the manufacturing sector and high tech companies by focusing on delivering career exploration and workforce development services that have had positive impacts on the emerging and incumbent workforce. PEB has educated and engaged MACNY companies and leaders from CNY companies to expand their ability to support change by providing opportunities to get them more directly involved in activities influencing the education/ workforce pipeline.

Most recently, the organizations have worked together to increase skills, training opportunities and jobs for low-income/low-skilled individuals through the Emerging Worker, eCUSE and Parent Success Initiative grants.

The PEB-MACNY affiliation is increasing the efforts of PEB to bring employers in contact with the future (diverse) workforce that are in our education/workforce development systems today. In the normal conduct of business, PEB recognizes that there are few circumstances where these diverse constituencies would come together and interact. The programs and services of PEB have always made this outreach a priority. PEB career exploration activities, such as career fairs, job shadowing/internships and speakers, sets the stage for these interactions.

In May, Partners for Education & Business (PEB) kicked off its new career awareness program, called the **Career Spark Campaign- Sector Strategy**, PEB is educating and engaging MACNY companies and leaders, as well as other regional companies, to expand their ability to directly influence and impact workforce development policy and implementation.

The **PEB Career Spark Campaign** is a career education/workforce development strategy and is focusing on sectors. Our goal is **to increase the number of companies** that are both committed and participating by being career sparks as well as to **increase the number of students** that are impacted by PEB and PEB partner programs.

Based on the Regional Economic Development Council model, this **sector-based initiative** will address workforce needs and solutions for employers in 5 growth sectors. Sector meetings have been held already to engage employers to identify a workforce plan for their sector and to build support for the PEB mission. In the sector meetings, the common theme was the need for improvement in skills, increased awareness of careers in each sector along with some specific short term strategies to help companies now.

Another strategy, the **PEB Teacher-in-the-STEM Workplace Program** helps teachers to learn and understand about what is happening in the modern high tech work environment as well as the skill demands for jobs. Without this type of experience, most teachers themselves do not have the workplace connection to share with their students, particularly as it relates to the STEM-related careers.

STEM is a key economic driver in NY's technologically diverse landscape, STEM careers are growing 2.5 times faster than the non-STEM average. STEM literacies and related critical thinking, trans-disciplinary problem-solving skills are also important in many other sectors. Yet, despite evidence that earnings for people in NYS working in STEM careers average 93% more than the average for all workers in the state, only 72% of the NYS high school class of 2009 graduated and only 74% of graduates planned to go directly to college. Nearly 44% of students in NYS 2-year institutions and 13% in 4-year institutions take remedial coursework.

There is evidence that a major part of the problem lies in the fact that students do not have the information necessary to make good college and career decisions, nor do they make the connection between STEM in school and work. This issue is amplified when a teacher does not have the context of the STEM workplace to create learning opportunities.

On average, 120 students were impacted for each participating teacher when teachers delivered classroom instruction related to their experiences. Teacher satisfaction was very high with over 90% of the participants rating the experience as Very Good to Excellent and nearly half stating that their experience Exceeded Expectations. Employers have given the program high marks, as well.

PEB also coordinates career exploration/career preparation activities, impacting over 6,500 students, teachers, and dislocated workers/ low-skilled adults. PEB conducts Careers Day in several industry sectors to bring together businesses and Middle School, High School, and community college students. Career Days have been held in the following industry sectors: Manufacturing; Engineering and STEM; and Accounting and Finance. Activities include presentations and hands on demonstrations. Over 100 students participated in the 2nd Annual Manufacturing Careers Day held in 2011 at Lockheed Martin. Inficon is the host for the 3rd

Annual event on October 5, 2012 and will be held in alignment with National Manufacturing Day.

A good percentage of PEB services are focused on middle and high school students in urban and rural districts where “**career sparks**” can have the greatest impact in support of other reform models, such as the Say Yes to Education initiative. The remaining services focus on other regional districts so as to meet the needs of all businesses and organizations in the region. A balanced approach will help ensure all companies in the region have a stake in reaching students throughout the region.

PEB is the CNY STEM Hub Steward, part of the Empire State STEM Learning Network. Empire STEM CNY is a community collaborative that is committed to interconnecting people in business, higher education, community organizations, cultural institutions and PK-12 schools to design, develop and demonstrate innovative, sustainable and transferable STEM learning experiences.

Goals for the Hub include: effective professional development models (portfolio of programs) for inquiry-based education; Identified structure for CNY STEM Hub partnership that is representative of elementary, middle, secondary and post-secondary education levels; a mechanism for teacher communications and the community to share best practices internally within that team, and a system to share externally; STEM learning opportunities for students.

What is the Return on Investment? The 6,500 teachers, students and adults’ program participants increased awareness of the skills, attitudes and knowledge necessary for success in the modern workplace, with an emphasis on science, technology, engineering, math, and advanced manufacturing. Employers can see reduced turnover and increased productivity from a workforce possessing job ready skills, critical foundational skills, and an understanding of how their career aligns with their interest and capabilities

Certifications/Credentials: The most significant “lever” for success in statewide deployment of the Manufacturing Skills Certification System: The state champion for reforming manufacturing education using nationally portable, industry-recognized credentials—The Manufacturers Alliance of New York —formed an early, strong partnership with the Empire STEM Network, the Governor’s Regional Economic Teams, and the SUNY Alliance, all dedicated to advancing STEM education reform and initiatives in the state. The Empire STEM Network facilitated connectivity across all sectors in New York State, as they engaged in Race to the Top planning and application. Thus, the STEM Network presented a ready platform for plans to deploy the Manufacturing Skills Certification System. As a result of this partnership, industry and key players in the state education system are advancing a shared vision, strategy, and commitment to a reform plan focused on providing New York citizens with the education and skills necessary to access and succeed in high quality, middle class jobs in the New York economy. Working together, the industry-education partnership is successfully leveraging each partner’s strengths and constituencies to gain both traction and momentum in their shared goals.

Certifications Issued in 2011: In connection with the national goal to issue 500,000 industry certifications within 5 years, 1,541 certifications were issued in New York as part of the NAM-Endorsed Skills Certification System. An example of a certification is the Certified Production Technician.

What can we do in Central New York to ensure we have a skilled workforce?

Exciting, Educating and Employing the Next Generation Workforce!

STRATEGY	ACTIVITIES	OUTCOMES/RESULTS
<p>Build awareness and advocacy in the community</p>	<p>PEB Career Spark Campaign Sector Strategy</p> <p>Based on REDC Sector model for high growth areas:</p> <ul style="list-style-type: none"> ▪ Advanced Manufacturing ▪ Clean Energy & Environmental Systems ▪ Agribusiness & Food Production ▪ Health/Bio-Sciences ▪ Financial/Professional Services 	<p>Common theme in sector meetings is the need for improvement in skills, increased awareness of careers in each sector along with some specific short term strategies to help companies find workers now.</p> <p>Sector-specific goals addressing education and workforce development are being implemented.</p>
<p>Deployment of the Manufacturing Skills Certification System, endorsed by NAM</p> <p>NAM: National Association of Manufacturing</p>	<p>Using nationally portable, industry-recognized credentials</p> <p>Certifications Issued in 2011: In connection with the national goal to issue 500,000 industry certifications within 5 years, 1,541 certifications were issued in New York as part of the NAM-Endorsed Skills Certification System.</p>	<p>A shared vision, strategy, and commitment to a reform plan focused on providing New York citizens with the education and skills necessary to access and succeed in high quality, middle class jobs in the New York economy.</p> <p>In May 2012, New York community colleges submitted a \$15M, statewide consortium application for the TAACCCT grant program, led by Monroe Community College, with heavy focus on the Skills certification system and advanced manufacturing</p>
<p>Teacher-in-the-STEM-Workplace</p>	<p>Placing teachers in Advanced Manufacturing/ High Tech worksites to provide context in STEM-related skills, attitudes, knowledge and behaviors.</p>	<p>Students have the information necessary to make good college and career decisions, and can make the connection between STEM in school and work.</p>
<p>Career Exploration</p>	<p>Manufacturing Career Days Construction Career Day Law Day</p>	<p>Provide students with authentic STEM experiences and exposure to career</p>

	<p>World of Accounting Day Engineering Week STEM Career Day at the MOST</p> <p>Job shadows, internships, company tours, speakers in classroom</p> <p>Science fairs such as the annual SUNY ESF / MOST collaboration that has grown to reach over 500 students</p>	<p>opportunities</p> <p>Sectors are engaged in developing and delivering sector-specific activities</p>
<p>Build capacity to design and accelerate programs by aligning with the Empire STEM Learning Network/CNY STEM Hub</p>	<p>Connect stakeholders via the Empire State STEM Learning Network :</p> <p>Business + education at all levels + community organizations and professional societies with enlightened self-interest to collaborate on common goals</p> <p>Action teams focused on annual deliverables: -increasing STEM learning opportunities and participation for both teachers and students, - building awareness and involvement) en route to ultimate goal of preparing all students for success</p> <p>Aligning assets already in place while identifying gaps and scaling opportunities</p>	<p>PEB-MACNY has become the co-leader with Dr Donna DeSiato of ESM to implement a strategic plan for the CNY STEM Hub. The launch of the HUB was in October 2011.</p> <p>SMART Goals being addressed in professional development, inquiry-based learning activities for students, community engagement, employer support</p>

Summary

The strategies/solutions outlined here are focused on increasing the number of students that choose STEM-related college and careers through being impacted by MACNY-PEB and PEB partner programs. To accomplish this goal, we must increase the number of companies that are both committed to and participating in being career sparks for students. Employers must play an active role in impacting the workforce pipeline in light of the growing need for higher and more sophisticated skills in the workplace.

However, unless the education reform policy agenda for New York State includes an effective, innovative platform for career exploration/workforce development, we will not have the impact that is so critically needed.

MACNY-PEB is among the diverse stakeholders in communities in New York State who recognize the need to act now and act boldly to galvanize local resources and expertise for New York to realize its full potential in the national and global economy. We extend our hand in partnership to the Education Reform Commission to accomplish this vitally important work.

Thank you.