

# **Manufacturing Leadership Summit: TARGETING CHANGE**

## **Manufacturing Summit Summary**

On February 14, 2008, nearly 100 individuals attended the Manufacturing Leadership Summit: Targeting Change, which was a half-day event held at College of DuPage in Glen Ellyn, Illinois.

The summit was sponsored by the Business and Professional Institute of College of DuPage, DuPage Workforce Board, Illinois Manufacturers' Association, Innovate Now, The Lincoln Foundation for Performance Excellence, and Valley Industrial Association. The sponsoring organizations publicized the event through their membership rosters and provided input about the program format and speakers.

The summit was intended as a first step in the formation of a Manufacturing Leadership Council to address the issues and barriers faced by the manufacturing industry in the DuPage County area. The goals of the summit were to:

- identify specific workforce development needs,
- develop a preliminary list of solution suggestions,
- gauge support for a manufacturing leadership council to develop collaborative approaches to meet the challenges.

## **Overview of the Summit Program**

### ***Welcome: A Path to the Future***

Chris Picard, Vice President, Academic Affairs, College of DuPage, welcomed the audience and made the following key points:

- Most manufacturing facilities in DuPage County are clustered in higher value-added sectors such as machinery manufacturing, fabricated metals, computer and electronic equipment, specialty plastics, transportation equipment, and electrical equipment and components.
- The sector employs more than 63,000 workers in the county (from The State of Working DuPage County, 2007)
- Compensation of employees in manufacturing in DuPage County in 2006 was over \$4 billion per year; average annual compensation package per worker was \$77,771.
- In the Northeast Illinois region, including the counties of DuPage, Cook, Kane, Kendall, Lake, McHenry and Will, there are over 400,000 manufacturing jobs.
- Manufacturing output in the U.S. has never been higher.
- Increased productivity comes from applied research and innovation—manufacturing is now high-tech and thus needs high skilled workers.
- Business Edge has reported that employers are now facing a critical shortage of highly-skilled workers to fill positions that are currently open and positions projected to be open in the future.
- Workforce development need estimates through 2017
  - Need a 10% growth in the number of people in the workforce with the skills to handle complex problem solving, resource management, technical and engineering system development.
  - DuPage County is projected to have a higher than national need for system and technical skills.
- College of DuPage is ready to partner with regional employers, organizations and other educational institutions to meet these needs.

## ***Introduction: Setting the Stage***

Meryl Sussman, Associate Vice President of Economic and Community Development, College of DuPage, served as the summit chair. In her introduction she outlined the program for the morning:

- Speakers and panelists will help to identify the barriers in developing the workforce needed and the successful practices that should be considered in launching new initiatives.
- All attendees will participate in identifying some actions that can lead to solving the problems. This will be done during the breakout sessions.
- A Manufacturing Leadership Council will be formed in the next few weeks to review the outcomes of the summit and develop plans to take the next steps to building a collaborative approach to workforce development in manufacturing.

## ***The Power of Partnerships: Perspectives from Practice***

Trish Anen, Vice President of Operations and Nursing Services, Edward Hospital and Chairperson of the DuPage Area Healthcare Leadership Council, shared the experience of building an industry leadership council. Her key points about “lessons learned” included:

- Keep competition among council members outside; inside the council, focus on becoming highly collaborative over the shared concerns and goals.
- “It takes a village” to solve workforce development challenges; educational institutions need the help of businesses and government agencies to address barriers. No one entity can do it alone.
- Partnerships take time, especially when cultures are so different (i.e. academic versus business).
- It requires lots of listening and understanding to build the trust necessary for healthy relationships.
- Key decision makers need to be involved. Challenges/decisions may not get made at the lower levels.
- Colleges/universities are not making boatloads of money, so some support may be necessary from the employers. Over the long term, the ROI will become evident if you have a competent workforce.
- Sometimes to make change, you all have to hold hands and support a decision. On a few key decisions no one was allowed to “opt out.” Initiatives within the council could not be used as a competitive advantage.
- There will be work involved so someone needs to be given the time to do this. In the end, the ROI will be there.
- Ensure some successes at the beginning; go after the “sacred cows” later.
- Set some realistic goals and celebrate successes. Always be working toward these goals – otherwise, the council can easily get off track.
- Tap into government/trade association resources. They are a “neutral” body that everyone typically feels comfortable with.
- It is work, but it is worth it!

Margaret Truax, Director, Packer Foundation, spoke about the power of partnerships from the perspective of a partnership-intensive business, Packer Engineering, Inc. in Naperville, - an engineering research and consulting firm whose multidisciplinary practice includes failure analysis, accident investigation and reconstruction, industrial consulting, customized and routine testing, and commercial product development. The company is a leader in the application of science, mathematics, and technology to the solution of industrial and business problems, to the development of intellectual properties, and to research and development.

Packer Engineering has more than one hundred twenty staff members, most of who hold advanced degrees. They are encouraged to participate actively in educational research and professional activities ranging from mentoring individual student interns to active participation on university committees, as adjunct lecturers, and as leaders in professional societies and research organizations.

What makes business/university partnerships successful?

- The partnership must be mutually beneficial. In the business world, this means that the partnership should contribute to the long term monetary growth of the partners.
- It must be characterized by teamwork based on mutual understanding of partner needs.
- It must result in the voluntary sharing of information and expertise.

- The purpose of the partnership should be carefully designed and commonly understood.
- Partners should share the responsibility for achieving their collaborative goal.
- Partners must be willing to “leave their egos at the door.”

Examples of partnerships that focus on improving the readiness of students to engage in the high order thinking and science skills needed for advanced technical work are:

- ***The Packer Foundation Engineering Internship Program*** which has provided practical experiences for college and university students in engineering, mathematics, and science, under the direction and supervision of Packer Engineering staff. Internships are custom designed to provide the best possible practical experience for the student while assuring that the work performed is valuable and meaningful to the internship host.
- ***The Packer Foundation Center for Applications Based Learning*** to promote and expand science and technology education at all levels and to enhance the education of students training to become engineers and scientists. A number of partnership programs were developed with teachers, college faculty, industry partners, and students to reinforce the idea that hands-on applications are a critical part of science and mathematics content instruction. Partnership programs developed by this foundation include:
  - ***PRISM: Professional Resources - Industry, Science, and Mathematics***, an intensive, long term program to enhance the knowledge, skills, and perspectives of high school and middle school teachers, thereby creating better teaching strategies and improving the classroom environment for learning.
  - ***STEP (Student Technology and Engineering at Packer)***, an internship program for high school and community college students who may be considering careers in engineering or engineering technology.
  - ***Pathways***, a group internship program developed originally for students at East Aurora High School by Packer Engineering and the Department of Commerce and Economic Development under the “Team Illinois” program. Subsequently the program has been expanded to include students at the other Aurora and Naperville high schools as well. Students work onsite at Packer Engineering for two after-school sessions per week.
  - ***Aviation Camp***, which provides a brief, intensive immersion in the science and technology of flight. It is offered on-site at the Packer Wings hangar at Clow International Airport in Bolingbrook. Students experience a hands-on curriculum reinforcing their skills in science and mathematics, and have the opportunity to fly on a small private airplane.

The intellectual foundation for these internship programs is the belief that the current business environment needs “Renaissance engineers” – men and women who are technically expert and interpersonally competent, as well as being knowledgeable about business matters and economic forces that drive business decisions. Packer Engineering educational programs benefit the organization by reinforcing a culture of continuous learning. The programs are adaptable to other locations and can serve as a model for adoption by businesses elsewhere.

### ***Keynote: Best Practices in Manufacturing Workforce Development***

Ron Bullock, Chairman, Illinois Manufacturers’ Association, and CEO, Bison Gear and Engineering, delivered the keynote address. His comments included the following points:

- Manufacturing is alive and thriving.
- Every \$1 invested in manufacturing returns \$1.40 in economic benefit.
- Manufacturers are innovators of processes and products.
- 50% of the manufacturing production in Illinois is sold internationally.
- In the past 5 years, Illinois manufacturers have experienced an 11% growth.
- 25% of the manufacturers in the state are in the greater DuPage-Chicago region.
- Manufacturing has reduced its manpower by 30% but increased its productivity 15%.
- Compensation in the manufacturing sector averages \$65,000 per year—the leading industry in this category.
- Manufacturing pays 43% of all corporate taxes.
- 50% of the applicants for jobs at Bison fail a shop math test.

In order to respond to the lack of academic skills, Bison has:

- Committed to growing its intellectual property and human capital through continuing education for its employees with tuition reimbursement and professional development.
- Worked with Downers Grove schools by providing math, science and technology teachers with summer internships at \$500 per week to see how skills are used on the job.
- Provided Downers Grove High School with equipment to use in class.
- Participated on the DuPage ETC board to address the career preparation for high tech industry jobs.

Mr. Bullock also informed the audience about the work of the Manufacturers Institute of the National Association of Manufacturers in doing research. He also suggested that more people get involved with the Business Champion program. He pointed out that research has shown that community colleges provide real value in training employees: twice as many employers are satisfied with community college graduates than with high school graduates as employees.

Other best practices highlighted by Mr. Bullock included:

- **The Renaissance Council** of labor and manufacturers in Chicago, which resulted in the development of the Austin Polytechnic Academy, focuses on a high risk student population by providing a structured environment including a lengthened school day, the requirement of uniforms, and overtime pay for teachers to extend their work with students.
- **The Skilled Workforce Initiative**—a partnership with community colleges, high schools and MSSC.
- **YES (Youth Employability Skills)**—a program that awards a certificate recognized by local employers to HS or GED graduates with 120 hours of training, 95-100% attendance, drug screening, passing scores on the ABE math and reading tests.
- Including the **Work Keys** test in math and writing to develop a full picture of skills and work readiness.

### ***Panel Discussion: The Challenges Ahead***

A panel discussion addressed the challenges of building a competitive manufacturing workforce. MaryBeth Marshall, Executive Director, DuPage Workforce Board, served as facilitator. The panelists made the following points:

- Margarito Alvarez, Director of Manufacturing, Nu-Way Industries, Inc.: Qualified employees are hard to find due to language barriers. Most training is on-the-job which becomes difficult because highly developed skills are needed now.
- Juan Chavez, Vice President of Human Resources, Jel Sert Company: There is a critical shortage of technically trained workers especially the machine technicians needed to keep the machines running. Their workforce is largely Hispanic so the company provides ESL at work and has to grow skills through OJT.
- Peter Papatos, Director of Supply Operations, Danaher Product ID Platform: New employees need to have several key skills: (1) they need to learn how to make the product; (2) they need to know how to process new knowledge, and (3) they need to understand the supply-chain and the pressures of globalization. Their success is hampered by lack of basic skills and the understanding needed to succeed in complex organizations.
- Robert McCaffrey, Owner, Corydon Converting Company: A major challenge is competition both domestically and globally. Companies need to define what differentiates them from their competitors. In the case of Corydon, there is an emphasis on customer satisfaction.
- Mark Meyer, Professor, Manufacturing Technology, College of DuPage: Manufacturing programs in high schools have dwindled in number; therefore, there are few students in the pipeline toward employment in the industry. COD receives 10-15 calls per week from employers looking for employees.
- Mary Lynn Fayoumi, President/CEO, The Management Association of Illinois: In 1990, 85% of the members were manufacturers—today only 55% are manufacturers. Most of the members have between 50-500 employees and their biggest concerns are recruitment and retention of employees as well as rising benefit costs, increased training costs, and the work-life balance. Employers want to know how to become an employer of choice and how to get the generations to work together. Starting positions at \$10-12 per hour are hard to fill and

people move on to get a few cents more per hour. Candidates are not coming from schools and companies are moving out of Illinois to find workers.

- Mary Gershwin, Senior Fellow, Center for Workforce Success, National Association of Manufacturers: Key questions are: (1) What do you really need? Entry-level workers? Advanced level workers? (2) What do you offer? Good wages? Long-term career? Advancement? Investment in the success of programs leading to career pathways? (3) Where is the pipeline to come from? (4) How much are you willing to invest in partnerships between the manufacturers and the colleges? Some good practices to investigate are:
  - Project Lead the Way targeting junior high and grammar schools
  - Junior Achievement

### ***Next Step: Creating Innovative Solutions Breakout Session Groups and Recommendations***

Following the panel presentation, attendees participated in one of five breakout sessions identified below. Each breakout session was charged with addressing the following:

1. Identify specific actions, that could be launched over the next year to 18 months, that will begin moving the region toward building and retaining the workforce needed in manufacturing.
2. For each specified action, identify key stakeholders and resources that might be needed.
3. Identify the top three actions, in order of importance or impact, to report back to entire group.

#### **Group One: Building the Image of Manufacturing**

Recommend actions to improve the image of careers in manufacturing and recruit a strong workforce through activities such as public relations campaigns, career path information, targeted outreach to minorities and immigrant communities, youth, and career changers, and bridge programs.

##### ***Recommendations:***

1. Open Factory Day – open to community to educate them.
2. Inform parents – the truth about manufacturing and their career opportunities.
3. Junior Achievement program, manufacturing-direct involvement in the local schools.

#### **Group Two: Raising the Foundation and Technical Skills of Entry-Level Employees**

Recommend actions to raise the capacity of entry level employees to meet employers' expectations through solutions such as use of portable skills standards and certifications to drive change in education and training, applied learning, greater industry involvement in training and education, and expanded sharing of resources.

##### ***Recommendations:***

1. Partnerships – Let companies know what community colleges can do; apprenticeship programs; advisory board; colleges working together; help with curriculum.
2. Require certifications – tell us what certificates students need (government involvement, standardize local requirements).
3. Manufacturers need to “Grow Their Own” – sponsor a student; internships; summer help; exposure to different jobs; look to Juniors.

#### **Group Three: Raising the Skills of the Current Workforce**

Recommend actions to strengthen the capacity of the region's training and education system and employers to continuously develop the skills of the current workforce through solutions that create on-going industry/education relationships, increase quality, convenience, and accessibility of training programs, share resources, provide transferable credit, and strategic use of new learning technologies.

##### ***Recommendations:***

1. Educational council to provide awareness of programs, training grants, etc.; implement training “one-stop” center.
2. Experts from business “leased” to community colleges as trainers.
3. Standardized measurement tool; standard cooperation of community colleges.

#### **Group Four: Developing, Advancing and Recruiting the Immigrant Workforce**

Recommend actions to tap and develop the skills and knowledge of the region's immigrant labor force and to foster a workplace environment in which diversity contributes to competitiveness through solutions such as integrated English as a Second Language, vocational and GED programs, diversity training, and leadership development at all levels.

##### ***Recommendations:***

1. Validate the MSSC for determination of additional training needs and educate manufacturers on what MSSC means regarding competency levels.
2. Identify core competencies central to all manufacturers and centralize the depository, e.g. safety and blueprint reading, team building, computers, and provide videos in native languages.
3. Provide training for temporary workers as grants will not fund it.

#### **Group Five: The Challenge for Small Manufacturers to Develop a Skilled Workforce**

Recommend actions to help small manufacturers to overcome resource and staff challenges that limit hiring qualified employees, upgrading skills, and retention through solutions such as recruitment assistance, convenient, accessible and high quality training for multiple companies, appropriate use of new learning technologies, and leveraging resources.

##### ***Recommendations:***

1. Commit to training and education – possible to adopt immediately – take advantage of low cost of education at community colleges.
2. Consortium for small companies for dealing with problems and finding solutions
3. Take advantage of State grants.
4. Rewarding employees effectively – communicate to employees/workforce specifically what employer expects, limited resources from people within. Promote from within?

### **Recommendations for Action**

The following comments were taken from the evaluations that summit participants provided.

- Report via e-mail.
- Have a dedicated group in charge of making things happen; formation of a council to push initiatives; publish council decisions on how to proceed with ideas submitted and their timeline.
- Visit manufacturing companies to better understand their needs and then report findings; meet with educators to see what's offered; bring both groups together.
- Update groups quarterly on progress toward goals.
- Assist smaller companies in improving their image and efficiency; this is where most employees will end up working and you don't want them to feel disillusioned about what they saw and what job they actually got hired for.
- Contact participants quickly so momentum is not lost; have a structured next-step process.
- Create a resource website.
- Get involved.

### **Next Steps**

- The summary will be distributed to all Summit participants by mid-March and posted on the BPI website (<http://bpi.cod.edu>).
- The participants' suggestions for Council members will be reviewed for balanced representation and initial Council members will be invited to attend an organizational meeting to be held in April.