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## Identifying High Demand Occupations and Understanding the Needs of Northeast Ohio Manufacturers: Focus Group Summary Report

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Prepared for:  
**Cuyahoga Community College and  
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July 2009

**Identifying  
High Demand  
Occupations  
and  
Understanding  
the Needs of  
Northeast Ohio  
Manufacturers**

Focus Group  
Summary  
Report

2121 Euclid Avenue Cleveland, Ohio 44115  
<http://urban.csuohio.edu>

**“We need to  
re-career people  
who are  
underemployed”**

June 23, 2009

## Introduction

While the current economic climate is challenging, it provides an opportunity to assess critical workforce and talent issues facing the manufacturing community.

In March 2009, Dr. Joel Elvery of Cleveland State University's Maxine Goodman Levin College of Urban Affairs released the *Employment and Wage Trends of Manufacturing Occupations in the Cleveland-Elyria PMSA* analysis. The analysis identified occupations that appear to be “pain-points” for employers - or open positions that are hard to fill and thus, in high demand.

Regions around the state, under the auspices of the Ohio Skills Bank, are looking at how they are preparing to fill occupational shortages that are bound to impact business success as the economy improves. The Ohio Skills Bank (OSB), a key component of Governor Strickland's **Turnaround Ohio** plan, is an initiative to invest in regional strategies that integrate workforce and economic development activities.

To better understand the specific manufacturing occupations of concern and employment and training needs of Region 8 manufacturers we conducted two focus groups during the week of June 22, 2009.

The findings from these focus groups are part of a larger effort by the Ohio Skills Bank to serve the needs of local manufacturers and strengthen the relationship between area employers and education & training programs to prepare individuals for careers pathways in manufacturing.

***“Empowerment  
is based on the  
ability to be  
empowered”***

June 23, 2009

## **Methodology**

On June 23 and June 25, 2009, two focus groups with manufacturing companies were conducted in downtown Cleveland and one in Lake County. Questions were asked about specific manufacturing occupations of concern at participants' companies, aligning education and training programs to better suit company needs, and workforce recruiting and retention issues. Participants were also asked about their interest in on-going opportunities to engage with the Ohio Skills Bank.

To gain feedback from a diverse group of Northeast Ohio manufacturers, Cuyahoga Community College, in partnership with the Manufacturing Advocacy & Growth Network (MAGNET) invited representatives from local manufacturing companies to participate in one of 2, two hour focus group sessions. The participating companies included:

Precision Metalforming Education Foundation  
Education Foundation  
Global Technical Recruiters  
The Horsburgh & Scott Co.  
Polymer Concepts, Inc.  
Ford Motor Company - Cleveland Engine Plant 1  
Melin Tool Company  
Fredon Corporation  
Lincoln Electric  
Fischer Special Tooling  
Trust Technologies  
Trust - Miltronics

Participants from the companies included company presidents, human resource managers, recruiters, a representative from the autoworkers union, and personnel consultants.

In addition to the focus group participants, a group of local experts were present at each session as observers. These individuals included representatives from Lakeland Community College, Cuyahoga Community College, Cleveland State University, MAGNET, Greater Cleveland Partnership and Team NEO.

A list of focus group participants, the high demand occupation list from *Employment and Wage Trends of Manufacturing Occupations in the Cleveland-Elyria PMSA analysis* and a copy of the invitation letter can be found in the appendix.

***“Employees  
need multiple  
skill sets”***

June 25, 2009

***“Employers  
want workers  
with experience”***

June 23, 2009

***“Employees  
need skills that  
are specific to  
the company”***

June 25, 2009

## **Identifying High Demand Occupations**

Employers in the first focus group were in overall agreement with the high demand occupations list (see list). However, they recommended a reordering of the occupations listed and also suggested that one or two of the occupations that the research showed were in the lower (less demand) category were actually in higher demand. These included Machinists and Computer Controlled Machine Tool Operators.

Employers in both sessions indicated that some of the occupations listed in the lower quadrants should be moved to the higher demand category of employment and wage growth such as Computer-Controlled Machine Tool Operators. This is displayed in the participant ranking/vote of the high demand occupations

By contrast, employers in the second focus group felt that the titles of the occupations listed were not helpful in describing the actual jobs and suggested their own categories.

When employers discussed high demand occupations, they very much tied the occupations to the skills that they needed from their employees and not just the job title or occupation listed. This was true across both focus groups.

These occupations are in such high demand categories that the companies are retaining employees even in the current economic times so that when a recovery happens, the company will have the skilled employees that it needs.

Employers indicated that they have seen an increase in wages for machinists, because of limited supply – not enough good/skilled machinists. They identified machinists as being the broadest occupational category in a career path of similar skills with Computer-Controlled Machine Tool Operators.

Participants in the second focus group session felt that the following occupations should be added to the occupations in demand list:

- Electrical engineers
- Chemical engineers
- Maintenance technician
- Pharmaceutical manufacturing

## Skills:

Participants discussed the skills they would like potential employees to either possess or have had exposure to before being hired at their company. Below is the list of skills generated by both focus groups.

- Flexibility
- Be able to do-it-all
- Soft skills
- Employability skills
- Comfort in working with math/numbers
- Discipline to be regulated
- Critical thinking skills
- Self-efficacy
- Problem solving
- Desire
- Machine set-up
- Machine operating
- Programming
- Skilled machinist
- Six sigma black belts
- Skilled metal workers
- Mechanical skills

***One employer suggested that a new category of occupations in the manufacturing sector should be added: Manufacturing Technologist***

## Prioritizing High Demand Occupations

Using the list of high demand occupations identified in the *Employment and Wage Trends of Manufacturing Occupations in the Cleveland-Elyria PMSA* analysis, employers were asked to indicate which occupations they felt were in the highest demand. Each participant was given three “votes” to prioritize occupations in high demand.

Participants identified the following occupations as being in highest demand for their industries.

- Machinists (13)
- Computer-Controlled Machine Tool Operator, Metal and Plastic (9)
- Numerical Tool and Process Control (7)
- Industrial Machinery Mechanics (2)
- Machine Repair (1)
- Electrician (1)
- Maintenance technician (1)
- Mechanical Engineering Technicians (1)
- Welders (1)

### Additional Employer Comments:

- What skills are teachable?
- Employers want workers with hard skills PLUS – the plus includes intangible skills, including the ability to learn new things, inquisitive nature and being cooperative. They questioned whether you can get these skills by going to school.
- Employers felt that there was a need to transfer the knowledge from older employees to new or younger workers.

***“Manufacturing  
is not  
glamorous”***

June 23, 2009

***“Sometimes we  
need to get  
creative about  
where we recruit  
from”***

June 25, 2009

**Where do you get new employees from?**

- Max Hayes High School
- Polaris Career Center
- Cuyahoga Community College
- Auburn Career Center
- Other vocational education programs

## **Recruitment**

Employers from both focus groups indicated that they use trusted sources to find new employees. These include getting new employees from the competition or new employees that come with a reference or recommendation (personal referrals).

Because new employees are difficult to get, often times this means that employers need to grow their own workforce by starting a new employee at an entry-level position in secondary operations or in places such as the shipping department. They will then test and observe the individual to see if it is someone they can train with the goal of eventually moving them to the plant floor. This tactic was discussed by employers at both focus groups.

Employers indicated that they want workers that not only come with the skills taught to them in an educational/training program, but they want them to have work experience as well. Participants in both focus groups said that such people are particularly difficult to find.

Employers are familiar with many of the training programs. Yet they feel that they often need to get creative to recruit the kinds of new employees that they want. They find it difficult to get entry-level employees, but it is even harder to get the higher skilled employees.

Employers said that they want employees for the long-haul. They want individuals who will stay with the company. When companies find these employees, they will invest in them. These people are hard to find, however. This was a point stressed by participants of both focus group sessions.

Employers felt that they can get people who will apply for open positions – bodies aren't the problem. It's getting the skilled employee that is difficult.

***“Need to change  
the perceptions  
about  
manufacturing  
as a dirty  
business”***

June 25, 2009

***“Experienced  
workers are  
getting ready to  
retire, we need  
to find younger  
employees to fill  
their jobs”***

June 23, 2009

**Additional Employer Comments:**

- Used to get employees from the NASA machining program, but that has since been discontinued.
- Very few companies will take people right out of high school/college or with no work experience.
- It's difficult to get good employees and getting young people in the door.
- Can't find people with existing skills so need to look for the aptitude to learn.
- Manufacturing is not sexy, people don't want to go into it as a career.
- Can't find people with existing skills.
- Employers could easily put out ads saying they are hiring and get hundreds of applicants, but aren't sure they would get the ones that would be right for the positions needed – skilled, good workers.
- Need to show the manufacturing plants to students and others so that they can come in and see that shops are air conditioned and clean – change the image of the hot, dirty shop.
- The best employees are those with basic skills and lots of ideas.
- Max Hayes High School has a great welding training program, but not enough students are in the program.
- Employers need to change their image of what a 'good' employee looks like. They might come to you with tattoos and large holes in their ears, but it doesn't mean they won't be a good worker.

### **A creative approach to recruiting new employees**

An employer at the second focus group session described how he tries to get new employees by going straight to the source – mothers. He said that he brings roses to local high schools to give to mothers of the students there. He felt that this shows them that his company is friendly and a good place for their sons and daughters to work, as well as being a good way to introduce his company to new people. He does this because he feels that parents – and in particular mothers – have a great deal of sway in what their children do.

## Training Pipeline and Pathways

***“Give employees the opportunity to recognize that they can learn”***

June 23, 2009

***“Foster an environment with employee feedback and input”***

June 23, 2009

***“There is a need to up-skill certain employees”***

June 25, 2009

Employers from both focus group sessions indicated that they already utilize a variety of training programs for their incumbent employees. They prefer to have training programs on-site. While they do not necessarily push their employees to get degrees, they invest in an employee who has long-term potential.

Participants in the first focus group felt that one of the key ingredients to creating a high-skilled workforce, even within a specific company, is a management culture that allows employees to both grow and learn.

Not all of the employers cared about providing training programs that would give out a certificate or degree – they are not interested in the piece of paper. But they said that a program with a certificate or credential might get high schools and parents to recognize manufacturing as a legitimate choice for a career path for young people and go a long way in changing the perceptions of the industry. This was particularly true of employers from the second focus group session.

Participants in the second session stressed the importance of nationally recognized competencies and certification programs such as National Institute of Metalworking Skills (NIMS), the National Association of Manufacturers, Manufacturing Skill Standards Council (MSSC) and American Welding Society (AWS). Neighboring states have adopted these standards and Ohio has to move in the same direction.

### Existing training programs mentioned in both focus group sessions

- Auburn Career Center
- Co-ops
- Cuyahoga Community College
- ITS distance Learning
- Max Hayes High School
- On-The-Job
- OTC (Outsource Training & Consulting)
- Other vocational education programs
- Polaris Career Center
- Tooling U
- WireNet

### **Additional Employer Comments:**

- Employers must be in 'growth mode'.
- Lean-to-green training is important.
- Training is growing in importance.
- Employers need to foster an environment that values employee feedback and input.
- If they find long term employees, they will invest in them.
- Employers need to articulate expectations to employees. What are the conditions of employment. Clearly define them for the employee. Feel that often times the employee and employer have differing expectations.
- The pharmaceutical industry does not have any certifications, but they are moving in that direction.
- Can teach technical skills, but employees are missing the soft skills.
- Educational institutions are pushing for the stackable programs, but what employers really want is an effective employee – does that come out of a training program? Maybe.
- Employers would like to see some kind of training program for machinists.
- Employers prefer to use in-house training programs. Allows them quicker turn around in developing the curriculum and the flexibility to still have their employees physically at their facility.
- OTC and Tri-C have the capacity to provide an educator on-site.
- ITS provides on-the-job training and is tailored specifically to the equipment and facility.
- Apprenticeships will become more important especially with recent changes to the rules governing apprenticeships.
- Where is the place for the in-between employee? "CEU's don't cut it". One problem is how best to push them to an Associate Degree or Bachelor Degree.
- There is a need to "up-skill" (up grade the skills of) certain employees. This might mean training that provides them an 'in' towards a degree.
- Need strong connections to tech prep programs.
- Tooling U has a good on-line training program (ISO 1345, SOPS Technical Writing).
- Lakeland Community College has a great model in the bio-tech field. This could be a model for other fields.

## **An example of On-Site Training from Ford**

MWT, or Manufacturing Work Team Training has been a program in use at Ford for training its employees. This program is a four week, on-site, computer-based individualized training program.

The training provides employees an opportunity to upgrade skill sets for machining technicians, as well as other occupations in the plant on their own equipment. The plant works with Tri-C to administer this program.

### **Next Steps:**

All focus group participants offered to take part in ongoing discussions. They requested follow-up feedback on the Ohio Skills Bank process and suggested that employers and the business community need to have regular, on-going input into what the training and education programs will be doing.

### **Strengthening relationships between employers and training programs:**

- There has to be an element of hands-on training.
- Training needs to be specific to the company (equipment, facility, tools etc.) and specific to the company needs.
- Training programs need to help both the business and the profitability of the company.
- Want to get people to learn/understand from an early or young age that manufacturing can be a career path. Feel that people don't know or understand a lot about manufacturing today.
- Need to get to high school counselors and teachers.
- A good source of workers are those individuals coming out of the armed forces.
- Training programs should understand that employers want workers with both experience and skills.

## Appendix 1:

### Focus Group Participants

<b>Name</b>	<b>Title</b>	<b>Company</b>
Bruce Broman	Director	Precision Metal Forming Education Foundation
Chris Callgen	President	Polymer Concepts, Inc.
Russ Diemar	Engineering Manager	Trust Technologies
Kevin Johnson	President	Fischer Special Tooling
Jackie Knepley	Branch Manager	Global Tech Recruiters
George Kohn	Employment Supervisor	Lincoln Electric
Joanne Lakowski	Human Resources Manager	Trust Miltronics
John Nahornys	Employee Resource Coordinator	Ford Motor Co. – Cleveland Engine Plant 1
Monica Priester	Manager, Human Resources	The Horseburgh & Scott Co.
Roger Sustar	President	Fredon Corporation
Rob Wise	Operations and Human Resources	Melin Tool Company

## Appendix 2:

### Employment and Wage Trends of Manufacturing Occupations in the Cleveland-Elyria PMSA High Demand Occupations List

Occupation title	Category
<b>Employment and wages increased from 2001 to 2007</b>	
Stationary Engineers and Boiler Operators	High demand
Materials Engineers	High demand
Mixing and Blending Machine Setters, Operators, and Tenders	High demand
Numerical Tool and Process Control Programmers	High demand
Industrial Engineering Technicians	High demand
<b>Employment increased and wages were flat from 2001 to 2007</b>	
Mechanical Engineers	Modest demand
Mechanical Engineering Technicians	Modest demand
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	Modest demand
Truck Drivers, Heavy and Tractor-Trailer	Modest demand
<b>Employment and wages were flat from 2001 to 2007</b>	
Millwrights	Modest demand
Industrial Engineers	Modest demand
Industrial Machinery Mechanics	Modest demand
Machinists	Modest demand
<b>Employment declined and wages increased from 2001 to 2007</b>	
Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	Modest demand
Computer-Controlled Machine Tool Operators, Metal and Plastic	Modest demand

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Sources: 2001, 2004, and 2007 Occupational Employment Statistics (BLS)

Note: All wages adjusted for inflation and in current dollars

Prepared by Professor Joel Elvery, Levin College of Urban Affairs, Cleveland State University

## Appendix 3:

### Focus Group Invitation Letter

June 2, 2009

Dear Northeast Ohio Manufacturer:

MAGNET and its Ohio Skills Bank (OSB) partners invite you to attend **one** of the following two sessions to provide much needed input about specific manufacturing occupations of concern, aligning education and training programs, and workforce recruiting and retention issues.

While the current economic climate is challenging, it provides an opportunity to assess critical workforce and talent issues facing the manufacturing community. Regions around the state, under the auspices of the Ohio Skills Bank, are looking at how they are preparing to fill occupational shortages that are bound to impact business success as the economy improves. The Ohio Skills Bank (OSB), a key component of Governor Strickland's *TurnAround Ohio* plan, is an initiative to invest in regional strategies that integrate workforce and economic development activities. *Please see attachment for additional information about Ohio Skills Bank.*

A number of organizations have spent the last few months examining labor market data for Lake, Geauga, Cuyahoga, and Lorain counties including: CSU, Tri-C, Lakeland Community College, Lorain County Community College, Auburn Career Center, Polaris Career Center, Cuyahoga Valley Career Center, Cleveland Schools Adult Education and Lorain County Joint Vocational Center. Projected demand occupations and shortages have been identified **but your input is essential to “validating”** the information and the accompanying preliminary manufacturing career pathways.

#### SESSION DETAILS:

- **Tuesday, June 23, 2009 from 7:30-9:30 am at Magnet (Manufacturing Advocacy & Growth Network)**  
*The MAGNET parking lot is on East 24<sup>th</sup> between Payne and Chester and the gate will be open. You then will walk through the alley to East 25<sup>th</sup>, make a right and enter our front door, marked by the MAGNET awning. The actual address is 1768 East 25<sup>th</sup> Street. We will be meeting on the 2<sup>nd</sup> floor in the seminar room. See attachment for additional directions.*
- **Thursday, June 25, 2009 from 7:30-9:30 am at Lakeland Community College**  
*See attachment for directions.*

Light refreshments will be served and parking will be provided. Participation for each session is limited to 20 individuals.

**Please RSVP by June 15<sup>th</sup> to: Evelyn Burnett, 216-987-3062 or [evelyn.burnett@tri-c.edu](mailto:evelyn.burnett@tri-c.edu). If you can't attend, consider sending a representative on your behalf.**

Please join us for this interactive session. Your thoughts are important to us and we look forward to working with you!

Sincerely,

MAGNET  
Ohio Skills Bank Regional Team