



SESSION SUMMARY

On October 26, 2011, the MMAC, in partnership with the Milwaukee 7 and the Waukesha County Business Alliance, launched its “Closing the Manufacturing Skills Gap Project” to address the need for a skilled manufacturing workforce. The following is a summary of the session and a survey conducted with manufacturers in advance of the session.

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CLOSING THE MFG SKILLS GAP PROJECT
First Focus: Welders and Machinists

Project Partners: MMAC, Milwaukee 7, Waukesha County Business Alliance
Project Hosts: Tim Sheehy and Tim Sullivan, MMAC; Suzanne Kelly, WCBA
Project Contact: Shelley Jurewicz, MMAC/M7, sjurewicz@mmac.org, 414.287.4143

Project Description: A collaborative effort to put the Milwaukee Region in the best position to grow a skilled manufacturing workforce

PROJECT STRATEGY SESSION: OCTOBER 26, 2011

When: Wednesday, October 26, 7:30am-Noon
Where: Caterpillar Inc. | 6744 S. Howell Avenue | Oak Creek, Wisconsin 53154
Session Sponsors: Caterpillar and Kolb & Co.

Session Focus:
Address manufacturers' employment needs with a focus on welders and machinists

Session Goal:
To receive input and prioritize how to proceed in closing the manufacturing skills gap:
1) Brainstorm the who, where and of how skills that are currently being developed
2) Brainstorm the who, where and how to promote manufacturing careers and skills development

Session Design Team:

Company	First Name	Last Name
Alto Shaam	Randy	Avrit
Caterpillar	Bonnie	Tate
Cooper Power Systems	Jamie	Boettcher
Facilitator	Karen	Hung
GA Mfg. Precision	Claude	Lewis
GE Healthcare	Kyle	Kalmadge
Harley-Davidson	George	Falk
Harley-Davidson	Jeffrey	Griffith
Harley-Davidson	Carmen	Mabone
Kolb & Co.	Cheryl	Aschenbrener
Kolb & Co.	Marlin	Bochantin
Kolb & Co.	Kerri	Nowicki
MMAC / Milwaukee 7	Shelley	Jurewicz
Monarch Company	David	Mitchell
Retired	Bill	Krugler
Second Chance Partners	Stephanie	Borowski
Snap-On	John	Backus
Supersteel, LLC	Rosa	Figuroa
Wacker Neuson Corp.	Scott	Zantow
Waukesha County Business Alliance	Mary	Baer

Session Attendance:
110 participants, 58 manufacturers, 34 educators / workforce develop, others, 18 facilitators
Also see participant's list on page 10.

Session Outcomes:

Participants identified 122 priorities and after casting nearly 800 votes, seven priorities emerged as requiring action:

Priorities for Skills Development

1. Focus on “employability skills” development K-8th, High School and transitional workforce 16+ and older (See survey results on page 6)
2. Increase opportunities for work experience: youth job programs, student internships, etc.
3. Increase experiential learning, making manufacturing more tangible: Bots IQ, Project Lead the Way, Second Chance, Tech Education
4. Establish partnerships between manufacturing, K-12, post-secondary, and workforce development

Priorities to Promote Manufacturing

5. Develop a targeted message:
 - a) Promote reality of manufacturing today– from image to careers and jobs, to skills development
 - b) Highlight what we make and its significance
 - c) Make careers, professions and jobs tangible to students
 - d) Market manufacturing career pathways and advantages of a technical college education
6. Address key audiences:
 - a) Students: K-8th, High School and Tech Colleges
 - b) Parents
 - c) Teachers, educators, counselors, workforce development and their institutions
 - d) Tap our veterans
7. Leverage a variety of marketing avenues:
 - a) Manufacturing open houses, tours, field trips for students, parents, teachers, etc.
 - b) Social media and Dream it! Do it! website
 - c) TV commercial “Who’s under the helmet?”
 - d) Public TV program “Made in SE Wisconsin”
 - e) Manufacturing career days and career fairs

Additional Insights:

- Development of employability skills trumps basic manufacturing skills
- Difficult to separate out welding and machining from overall manufacturing
- There is consensus on the need to make manufacturing tangible
- Great passion about MFG and the need to promote it
- Manufacturers are less aware of resources available to them
- The talent pipeline is actually a talent network

Next Steps:

- Develop a network of participants and engage them in identification and sharing of best practices and partnerships to improve skills development
- Develop a unified and viral campaign to promote manufacturing careers and career pathways
- Communicate basic skill requirements to educators, workforce development, and others and seek greater alignment with manufacturers to better prepare students for a career in manufacturing
- Reconvene to develop an action plan

STRATEGY SESSION AGENDA – OCTOBER 26, 2011

Time	What
7:30-8:00am (30min)	Continental Breakfast & Networking
8:00-8:15am (15min)	Welcome
8:15-8:30am (15min)	Manufacturing Primer Laying a foundation for discussion
8:30-9:15am (45min)	Table Discussion: Skills Development Facilitated discussion about the skills required for a job or career in manufacturing, in particular as a welder or machinist. <ol style="list-style-type: none"> 1. Brainstorm who, where and how these skills are being introduced and developed in the talent pool. 2. Share who you are partnering or working with currently to develop these skills. 3. Brainstorm if there are other ideas we should explore or expand. 4. Select the top 5 ideas or resources you have identified as priorities for the <i>Closing the MFG Skills Gap</i> project to advance.
9:15-9:45am (30min)	Table Reports: Share the top 5 resources you have identified as priorities to focus on
9:45-10:00am (15min)	Prioritization Exercise: Participants cast 5 votes for the top priorities to focus on as we advance the Closing the Manufacturing Skills Gap Project.
10:00-10:15am	Break
10:15-10:45am (30min)	Parallel Table Discussion: Promotion Facilitated discussion about how best to promote jobs/careers as well as outlets for development to the current workforce and those in the talent pipeline. <ol style="list-style-type: none"> 1. Brainstorm who, where and how we are reaching those currently unemployed, underemployed and disenfranchised workers with development and job opportunities. 2. Brainstorm who, where and how we could promote the development and pursuit of careers in manufacturing, welding and machining to parents, teachers, counselors, students, the public, etc. 3. Brainstorm if there are other ideas we should explore or expand. 4. Select the top 5 ideas or resources your table has identified as priorities for advancement in the <i>Closing the MFG Skills Gap Project</i>.
10:45-11:15am (30min)	Table Reports: Share the top 5 ideas you have selected as priorities to focus on
11:15-11:30am (15min)	Prioritization Exercise: Participants cast 5 votes for the top priorities to focus on as we advance the Closing the Manufacturing Skills Gap Project.
11:30-11:45am (15min)	Next Steps
11:45am – Noon (15min)	Closing & Thank You
Noon – 1:00pm	Grab a box lunch to go, or grab a seat

**FUNDAMENTAL SKILLS REQUIRED FOR EMPLOYMENT OR PURSUIT OF A MANUFACTURING CAREER:
Help Wanted: Skilled Welders and Machinists**

Manufacturing is in our DNA. Wisconsin is the No. 1 state in the nation for manufacturing and the Milwaukee Region is No. 2 as measured by jobs per capita. Regionally, manufacturing is 16% of total employment – the 2nd highest concentrations in the U.S. Milwaukee is home to eight Fortune 1000 manufacturers and 3,530 manufacturing establishments employing 160,000 individuals at an average annual salary of \$42,000. Manufacturing is our future and it requires greater alignment for more effective skills and career development and placement. Too many manufacturing jobs remain unfilled from lack of skills and lack of interest.

Deloitte and The Manufacturing Institute released a report in October 2011 that estimates there are upwards of 600,000 manufacturing skilled positions currently open in the U.S.

Factors that are putting a stress on the talent pipeline include a retiring workforce, a talent pool with low interest in manufacturing, and a lack of basic employability skills. There are currently 5,816 open production positions in the Milwaukee Region while the Region's unemployment rate is 8.2%. Comparatively, Milwaukee County's unemployment rate is 9.2%, the State's unemployment rate is 7.3% and national unemployment rate is at 9.1%. The gap plays out with manufacturers reporting they are receiving hundreds of applicants for a single position but very few candidates with the potential requisite qualifications and skills.

Manufacturers are consistent in their skills gap assessment of the current candidate pool. This list of needs identified by participants at the January 2011 Wingspread Conference organized by the Racine County Workforce Development Center is being echoed across the country:

- Lack of Basic Skills – showing up for work (on-time everyday), etc.
- Lack of Essential Skills – critical thinking, problem solving, teamwork, etc.
- Lack of Basic Technical Skills – blueprint reading, measurements, computer, etc.
- Lack of Advanced Technical Skills – such as advanced computer and machining skills
- Lack of Experience – no prior or relevant work experience
- Changing Expectations – on behalf of manufacturers, parents and the students and workforce

Welders and machinists are in greatest demand. There are more than 12,000 people employed as welders and machinists throughout the Milwaukee Region. There are currently 757 positions open, with projections reaching 1,860 by 2018.

In the pipeline, MATC, WCTC and Gateway technical colleges, as of June 2011, have 1,222 students enrolled in manufacturing programming for welding and machining.

PRE-SESSION MANUFACTURING SKILLS ASSESSMENT SURVEY

The *Closing the Manufacturing Skills Gap Project* is putting initial focus on the basic skills (or what we are calling employability skills) and the basic manufacturing skills for welders and machinists.

To build a common skills platform for this project, manufacturers completed a skills assessment survey in advance of the opening session on October 26, 2011. The following is a high-level survey summary.

Manufacturing Needs Assessment Survey Results:

Nineteen employers completed the survey to help verify the fundamental skills required of those seeking employment in manufacturing. The manufacturers ranged in size from fewer than 50 employees to more than 1,000.

The survey asked manufacturers to identify which basic and advanced welding and machining skills they required on day one of employment and which they would expect to develop within the first 90 days of employment. The skills were divided into five categories:

1. Employability Skills
2. Pre-Employment Metal Machining Skills
3. Basic Metal Machining Skills
4. Advanced Metal Machining Skills
5. Pre-Employment Welding Skills
6. Basic Welding Skills
7. Advanced Welding Skills

The lists of skills utilized in the survey were initially defined by Second Chance Partners and confirmed by the session’s design team.

The prioritized results that follow provide a window into what employers are expecting from educators and workforce development, and which skills employers can look to develop internally.

When manufacturers were asked to identify which skills they would required on day one of employment and which they would expect to be developed within the first 90 days of employment or if the skill is not applicable, they responded:

1. Employability Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
On time at work & meetings	22	0
Reliable & truthful	22	0
Acts professionally & accountable for actions	20	2
Asks questions when needed to perform work accurately	19	3
Maintains a safe work environment	19	3
Reads & understands written & printed material	18	4
Able to read numbers & calculate accurately	18	4
Works well with all people & customers	18	4
Able to read & use measurement tools accurately	16	6
Demonstrates proper safety procedures	16	6
Willing to continuously learn & grow	16	6
Communicates clearly with leads & others	14	8
Manages self & work responsibly	13	9
Accepts feedback to improve	12	10

2. Pre-Employment Machining Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
Read a steel rule & combination square set	13	3
Measure with micrometer instruments	13	5
Identify & describe various lines on a blueprint	13	5
Interpret dimensions & tolerance on blueprints	13	5
Identify vertical milling machines & milling machine safety	11	6
Identify Vernier instruments & their application	11	6
Able to identify manufacturing methods & equipment	11	7
Identify metal cutting, drilling & machining equip. & applications	9	9
Identify arrangement of views on a blueprint	9	9
Identify pedestal (bench) grinders & their applications	8	10
Set up & use quality testing X, Y, & Z QA testing equip.	2	14
3. Basic Machining Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
Identify motions between tool & work-piece	12	5
Set up & perform a drilling operation in a 4 jaw chuck	8	6
Set up & perform a facing operation in a 3 jaw chuck	8	7
Set up & perform a turning operation between centers	8	8
Set up & perform a boring operation in a collet chuck	7	7
Demonstrate climb & conventional milling on a vertical mill	6	9
Identify & machine carbon steel, stainless and aluminum	6	10
Identify & utilize various types of milling cutters	6	10
Identify chip cutting theory & machineability	6	11
Identify ferrous and non-ferrous metals	5	9
Identify variables for milling cutter speeds & feeds	5	11
Identify setups & adjustments of a vertical milling machine	5	11
Set up & operate a surface grinder	4	11
Identify what affects steel during heat treatment	3	11
Develop a process plan for a part from a blueprint	2	13
4. Advanced Machining Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
Interpret threads, tapers & shop notes on engineering drawings	11	7
Read & understand standard & metric engineering drawings	11	6
Interpret section view drawings	11	6
Utilize carbide turning & tools	9	8
Identify geometric dimensioning & tolerancing	8	10
Identify surface finishes & tools & feeds required	7	11
Perform angular milling operations	7	10
Identify thread information & calculations	6	10
Identify & operate an offset boring head on a vertical mill	5	12
Produce a threaded part on a lathe	5	11
Utilize & interpret computer assisted drawing components	4	12
5. Pre-Employment Welding Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days

Operate welding equipment	16	0
Interpret basic elements of a fabrication drawing	14	2
Read a steel rule & combination square set	14	3
Make fillet welds on plain carbon steel	13	1
Interpret welding symbol information	13	2
Identify & describe the basic parts of welding equipment	13	3
Set up for welding operations on plain carbon steel	12	2
Make groove welds on plain carbon steel	11	3
Able to identify proper welding methods for base metals	11	6
Know the different welding terms NDT, DPT, MPT, SMAW etc,	10	5
Perform safety inspections of equipment and accessories	10	8
Interpret dimensions & tolerance on blueprints	9	8
6. Basic Welding Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
Works responsively & safely without endangering others	16	0
Understands welding equipment, accessories & nomenclature	14	2
Have a good understanding of weld symbols & wire types	14	2
Gathers the required consumables & tools for the work	11	5
Checks the welding equipment for proper connection & polarity	10	4
Identify different types of joining methods used in industry	9	5
Identify the different types of ferrous & nonferrous materials	8	5
Able to avoid work distortion by following sequences	8	7
Aware of consumable storage & handling	8	8
Able to produce different joining methods	6	7
Able to utilize cranes & forklifts in a safe & effective manner	6	9
Welds defect-free weld joints & negligible weld repair	5	10
Able to identify welding defects & perform necessary repair	5	11
7. Advanced Welding Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/i 90 Days
Checks welding accuracy, consistency, & quality	12	4
Able to read & understand all weld symbols on drawing or part	10	5
Able to make the proper fit up root gap & proper allowance	6	8
Able to weld per specification with visually appealing welds	9	7
Able to setup for volt & amp requirements for size & type of wire	9	6
Able weld with 3/32" Flux Core Wire	9	5
Able to weld in most all positions	8	7
Able to weld multiple passes on heavy plate with 3/32" wire	8	6
Able to set-up & run an automatic wire feed welding machine	7	7
Obtain AWS D1.1 Welding Certificate	4	8
Able to Air-Arc for repairs & back gouging	5	9

PUBLIC PERCEPTION OF MANUFACTURING

Deloitte, in partnership with the Manufacturing Institute, conducted its 2011 Annual Index– the third on the public perception of manufacturing. Highlights include:

- In 2010, the number of manufacturing jobs in the U.S. grew 1.2%, the first increase since 1997.
- Americans generally hold strong views on the importance of manufacturing while they hold negatives views about its future.
- Manufacturing job creation tops the list of the type of jobs most welcomed by a community, recognized for its importance to the economy and offering higher-wage jobs.
- The manufacturing sector is viewed as fragile and unstable with 55% of respondents believing it is becoming weaker, not stronger.
- 77% of survey respondents fear the loss of domestic manufacturing jobs to other nations contributes to a sense that manufacturing is an unstable long-term career choice.
- Manufacturing is near the bottom of the list of career choices.
- Among 18-24 year olds, manufacturing ranks last among industries in which they would choose to start their careers.

A ManpowerGroup survey earlier this year found the top two factors employers cited for finding it difficult to fill open positions are:

1. Organizational Factors: Candidates looking for more pay than is offered; poor image of business sector/occupation; poor image of co. and/or its culture; undesirable geographical destination
2. Talent Specific Factors: Lack of knowledge of business /academic principles or lack of industry/formal qualifications; lack of hard job skills or technical skills; lack of soft skills or interpersonal/communication skills; lack of experience; don't possess right values and mindset; don't possess right personality and intelligence

WHAT MANUFACTURERS SUPPORT

At the December 2010 National Manufacturing Talent Development Roundtable hosted by the Manufacturing Institute, participants laid out a manufacturing talent development road map which includes:

- Application of competency-based education (vs. education driven by a designated length of time)
- Launching of the NAM (National Association of Manufacturing)– Manufacturing Skills Certification System (WI is one of 30 states piloting)
- Infusion of technology in education
- Implementation of “Dream it. Do it.” manufacturing career campaign and online resources

RESOURCES AND PARTNERSHIPS

Many around the region are working to address the skills gap and reduce unemployment, for including:

- Schools that Can
- Second Chance Partners
- Project Lead the Way
- Teach for America
- Dream It. Do It.
- Milwaukee Succeeds
- Talent Dividend
- KnowHow2GoWI
- WICareerPathways
- WIJobsCenter
- WIWorknet
- Apprenticeships
- Youth Job Programs
- High School / Manufacturer Partnerships
- Job Fairs
- Technical College Boot Camps
- Manufacturer Bus Tours
- NAM Skills Certification Pilot

SESSION ATTENDEE

Company	First Name	Last Name	Company	First Name	Last Name
AAA Sales & Engineering	Jerry	Kisley	Kolb Co.	Mark	Sobczak
AAA Sales & Engineering	Angie	Mosley	Kolb Co.	Kerri	Nowicki
AAA Sales & Engineering	Paul	Rook	Kolb Co.	Les	Tarjan
Ace Precision	Brenda	Peiffer	Kolb Co.	Jim	Wagner
Alto Shaam	Randy	Avrit	Lakeside Manufacturing	Kari	Kowalski
Alto Shaam	Robin	Bergan	Lincoln Electric Co	Robert	Dempsey
Alto Shaam	Scott	Szypszak	Master Lock	Sybil	Bennett
AWI Metal Fabrication	Dave	Cooke	MATC	Michael	Burke
Badger Alloys	Rob	Cowen	MATC	Larry	Gross
Caterpillar	Ben	Cordani	MATC	Dorothy	Walker
Caterpillar	Mark	Erickson	MAWIB	Shirley	Lanier
Caterpillar	Dale	Gilbertson	MAWIB	Don	Sykes
Caterpillar	Sally	Marek	Maysteel	Steve	Guzewski
Caterpillar	Bonnie	Tate	Maysteel	Paul	Sanger
Charter Automotive	Lindsey	Luckow	MMAC	Jane	Backes
Charter Automotive	Jeff	Richards	MMAC	Cathy	Harrison
Charter Automotive	Erin	Spaeth	MMAC	Shelley	Jurewicz
Common Ground	Larry	Korlikowsky	MMAC	Tim	Sheehy
Common Ground	Keisha	Krumm	MMAC	Barb	Smith
Common Ground	Rev. Bobby	Sinclair	MMAC	Jim	Zehner
Cooper Power Systems	Jamie	Boettcher	Monarch Company	David	Mitchell
Cooper Power Systems	Darrell	Dent	MPS	Lauren	Baker
Cooper Power Systems	Darrell	Dent	MPS	Eric	Radomski
Cooper Power Systems	Sherry	Jones	MPS	Terri	Salzer
Cooper Power Systems	Sherry	Jones	P&H Mining	Dave	Biddle
Cross Lutheran Church	Ken	Wheeler	P&H Mining	Bryan	Hackbarth
Du-well Grinding	Gregory	Grambow	P&H Mining	Kim	Taylor
GA Mfg. Precision,LLC	Claude	Lewis	Project Return	Wendell	Hruska
Gateway Technical College	Bryan	Albrecht	QPS Employment Group	Jeri	Meyers
Gateway Technical College	Deborah	Davidson	QPS Employment Group	Steve	Waller
Gateway Technical College	Lauri	Howard	Racine County Workforce Development	Alice	Oliver
Generac Power Systems	Marni	Lemberger	Reich Tool & Design	Cathy	Howard
Generac Power Systems	Mark	Timmons	Reich Tool & Design	Fritz	Reich
Generac Power Systems	Dean	Zastrow	Rexnord Gear Group	Scott	Bean
GenMet	Eric	Isbister	Rexnord Gear Group	Jennifer	Congdon
Harley-Davidson	George	Falk	Rexnord Gear Group	Brad	Pockat
Harley-Davidson	Wendy	Labinski	Scheibel Halaska Inc.	Mary	Scheibel
KHS USA, Inc.	Bill	Mermolia	School District of South Milwaukee	Chris	Daniels
Kolb Co.	Bart	Adams	School District of South Milwaukee	Rita	Olson
Kolb Co.	Cheryl	Aschenbrener	Second Chance Partners	Stephanie	Borowski
Kolb Co.	Marlin	Bochantin	Snap-On	John	Backus
Kolb Co.	Jim	Brandenburg	Superior Die Set Corporation	Lori	Palama
Kolb Co.	Karen	Doerner	Superior Die Set Corporation	Ed	Wosilait
Kolb Co.	Erin	Horman	Supersteel, LLC	Rosa	Figueroa
Kolb Co.	Neil	Keller	Supersteel, LLC	Joe	Rouse
Kolb Co.	Tom	Luken	The Oil gear Co.	Connie	Curley
Kolb Co.	Brad	Netzel	The Oil gear Co.	Dennis	Ostrowicki

Vilter Mfg. / Emerson	Jennifer	Kovacich
Wacker Neuson Corp.	Ryan	Hilvers
Wacker Neuson Corp.	Ryan	Hilvers
Wacker Neuson Corp.	Jon	Lubner
Wacker Neuson Corp.	Jon	Lubner
Wacker Neuson Corp.	Scott	Zantow
Waukesha County Business Alliance	Mary	Baer
Waukesha County Business Alliance	Suzanne	Kelly
Waukesha School District	Amy	Lange
WCTC	Mike	Shiels
WCTC	Alexandra	Sielaff
WCTC	Joseph	Weitzer
Weldall Manufacturing	David	Bahl
WI Dept Workforce Development	Georgia	Maxwell
Wisconsin Economic Development Corp	Kathleen	Heady
WMEP	Buckley	Brinkman
	Bob	Coletti
	Karen	Hung
	Bill	Krugler
	Tim	Sullivan



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7 COUNTIES. 1 GREAT REGION.

◁ Welcome

Ben Cordani
HR Leader Global Mining

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CHOOSEMILWAUKEE
7 COUNTIES. 1 GREAT REGION.

◁ Welcome

Suzanne Kelly
President
Waukesha County Business Alliance

**WAUKESHA COUNTY
BUSINESS ALLIANCE**
Quality • Service • Growth • Progress

2

CHOOSEMILWAUKEE
7 COUNTIES. 1 GREAT REGION.

◁ Welcome

Tim Sullivan
Chair
Metropolitan Milwaukee Association of Commerce

MMAC
1841-2011

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◁ Gratitude

Partners

MILWAUKEE 7 **MMAC** **WAUKESHA COUNTY BUSINESS ALLIANCE**

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CHOOSEMILWAUKEE
7 COUNTIES. 1 GREAT REGION.

◁ Session Design Team

Alto Sham	Randy	Avril	MMAC / Milwaukee 7	Shelley	Jurwitz
Caterpillar	Bonnie	Tate	Monarch Company	David	Michal
Cooper Power Systems	Jamie	Boettcher	Retired	Bill	Knigler
Facitator	Karen	Hung	Second Chance	Sheharia	Borowski
GA Mfg. Precision	Claude	Lewis	Steap-On	John	Backus
GE Healthcare	Kyle	Kalmadge	Supersteel, LLC	Rosa	Figueras
Harley-Davidson	George	Falk	Wacker Neuson Corp.	Scott	Zartow
Harley-Davidson	Jeffrey	Griffis	WCSA	Mary	Beer
Harley-Davidson	Carmen	Malone			
Kolb & Co.	Cheryl	Aschenbrenner			
Kolb & Co.	Marlin	Bocharin			
Kolb & Co.	Karl	Nowicki			

Thank You!

5

🕒 The Project

Closing the Manufacturing Skills Gap Project

A collaborative effort to put us in the best position to grow a skilled manufacturing workforce

🕒 Morning Goal

To receive your input on how and where to proceed in closing the skills gap and growing a pipeline of **welders** and **machinists**

🕒 Morning Outcomes

With your input and direction we will:

- Verify the fundamental skills required
- Identify the resources for education, training & development, and best practices and ideas for skills development
- Prioritize which resources to focus on for greatest impact in closing the gap
- Prioritize which avenues to market manufacturing jobs, careers and skills development

🕒 Agenda

- | | |
|------------------|--|
| 7:30-8:00 a.m. | Continental Breakfast |
| 8:00-8:15 a.m. | Welcome |
| 8:15-8:30 a.m. | Manufacturing Primer |
| 8:30-10:00 a.m. | 1 st Discussion: Skills Development |
| 10:00-10:15 a.m. | Break |
| 10:15-11:30 a.m. | 2 nd Discussion: Promoting MFG |
| 11:30-11:50 a.m. | Recap and Next Steps |
| 11:50 a.m.-Noon | Closing |
| Noon-1:00 p.m. | Grab a box lunch to go or stay |

🕒 Today's Facilitators

Kold & Co.	Dart	Adams	MMAC	Jane	Sackes
	Cheryl	Aschenbrenner		Cathy	Hartson
	Marie	Bocharin		Garb	Smith
	Jim	Brandenburg			
	Karen	Dozier			
	Erin	Holman	Lead Facilitator	Karen	Hung
	Nell	Keller			
	Tom	Lukan			
	Brad	Nebel			
	Kerri	Novicki			
	Mark	Sobczak			
	Lee	Tarjan			
	Jim	Wagner			

Thank You!

🕒 Manufacturing Primer

Wisconsin is **No. 1** in nation for the highest concentration of manufacturing workforce

The Milwaukee Region is **No. 2**

144,108 workers or **15.5%** of workforce

High Unemployment

9.1% national unemployment

7.3% State unemployment

8.2% Milwaukee Region unemployment

Wisconsin Department of Workforce Development

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**HELP
WANTED**

600,000 skilled manufacturing positions
remain open nation-wide

Deloitte and The Manufacturing Institute, 2011

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**HELP
WANTED**

Over 5,600
production positions remain
unfilled in the Milwaukee Region

EMSI

14

**HELP
WANTED**

757 positions in welding and machining
are unfilled in the Milwaukee Region

1,860 openings are projected by the year 2018

EMSI

15

**HELP
WANTED**

2.7 million manufacturing employees are
55 years of age or older and likely to
retire in the next 10 years

Manufacturing Institute 2010

16

**HELP
WANTED**

Nationally, just 28.6% of teens (16-19)
were employed in 2010,
down from 45.2% in 2000

Pathways to Prosperity Project Harvard 2011

17

HELP WANTED

Skilled trades top list of
hardest jobs to fill in 2010 and 2011

Marpower 2011

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CAREER CHOICES

Manufacturing tops list of
types of jobs wanted in a community
...but nears bottom of list as a career choice

Deloitte 2011

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CAREER CHOICES

Among 18-24 year olds,
manufacturing ranks "dead last" among industries
they would chose to start their careers

Deloitte 2011

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CAREER CHOICES

27% of people with post-secondary
licenses or certificates – credentials short of
an associate degree – earn more than the
average bachelor's degree recipient

Pathways to Prosperity Project Harvard 2011

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CAREER CHOICES

Welders and machinists are promoted
among "Hot Jobs" in Wisconsin

Wisconsin Department of Workforce Development – Wisconsin Worknet

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CAREER CHOICES

1,222 students have enrolled in manufacturing
programming for welding and machining between
WCTC, MATC and Gateway technical colleges,

Wisconsin Technical Colleges Enrollment through 2011

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SKILLS REQUIRED

1. Employability Skills
2. Pre-Employment Machining
3. Pre-Employment Welding Skills
4. Basic Machining and Welding

Closing the Manufacturing Skills Gap Project
Skills Assessment Survey

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Skills Assessment Survey Results

Employability Skills	No. of Respondents Requiring on Day 1	No. of Respondents Requiring w/in 90 Days
On time at work & meetings	22	0
Reliable & truthful	22	0
Acts professionally & accountable for actions	20	2
Asks questions when needed to perform work accurately	19	3
Maintains a safe work environment	19	3
Reads & understands written & printed material	18	4
Able to read numbers & calculate accurately	18	4
Works well with all people & customers	18	4
Able to read & use measurement tools accurately	18	6
Demonstrates proper safety procedures	16	6
Willing to continuously learn & grow	16	6
Communicates clearly with leads & others	14	8
Manages self & work responsibly	13	9
Accepts feedback to improve	12	10

Resources and Partnerships

- | | |
|--------------------------|------------------------------|
| Project Lead the Way | WIJobsCenter |
| Second Chance | WIWorknet |
| MFG Bus Tours | Apprenticeships |
| Teach for America | Youth Job Programs |
| NAM Skills Certification | Project Return |
| Dream It. Do It. | H.S. School Partnerships |
| Talent Dividend | In-House Customized Training |
| KnowHow2GoWI | Job Fairs |
| WICareerPathways | Boot Camps |

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Morning Goal

To receive your input on how and where to proceed in closing the skills gap and growing a pipeline of **welders** and **machinists**

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Today's process

- Facilitated and timed table discussion
- Capture your discussion points on post-its
- Stick post-its to your table continuum chart
- Select your top choices to advance to a vote
- Table report top choices
- Full group prioritization exercise
- Break
- Repeat

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Discussion Guidelines

- Facilitators' Role**
- Encourage engagement
 - Balance speak time
 - Manage time against outputs
 - Manage discussion against outputs
- Participants' Role**
- Contribute what you know and your ideas
 - Stay positive and on point
 - Hold judgment
 - Seek to understand

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Discussion: Skills Development

Given a common understanding of the employability and basic skills required to pursue a career as a welder or machinist....

1. Brainstorm who, where and how these skills are being introduced and developed in the talent pool.
2. Share who you are partnering or working with currently to develop these skills.
3. Brainstorm if there are other ideas we should explore or expand.
4. Select the top 5 ideas or resources your table has identified as priorities for advancement in the Closing the MFG Skills Gap Project

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Discussion: Skills Development

Current Educational, Training & Development Programs, Best Practices								
<i>Post who, where and how skills are currently being developed</i>								
Skill Development	K-8th	High School	Tech Colleges	Employers	Dislocated Workers	Chronically Unemployed	➔	
New Ideas								
<i>Post new Ideas that should be explored or expanded</i>								
Challenges or Barriers								
<i>Post to address at a future time</i>								

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Prioritization Exercise: Skills Development

1. Each of you have been given 5 dots
2. If you are a manufacturer, your dots are red, all others are blue
3. Take your dots and place them on the ideas that have been advanced by each table that are of most interest to you
4. You may place all 5 dots on one, or spread them out over 5 ideas

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Discussion: Promoting Welding/Machining/MFG

Given that many positions in welding and machining remaining open, even with high unemployment. And as skilled workers retire, there is low interest by young adults in manufacturing...

1. Brainstorm who, where and how we are reaching those currently unemployed, underemployed and disenfranchised workers with development and job opportunities?
2. Brainstorm who, where and how we could promote the development and pursuit of careers in manufacturing, welding and machining to parents, teachers, counselors, students, the public, etc?
3. Brainstorm if there are other ideas we should explore or expand.
4. Select the top 5 ideas or resources your table has identified as priorities for advancement in the Closing the MFG Skills Gap Project.

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Marketing Discussion: Current & Pipeline

Promotion to Current Workforce								
<i>Post who, where and how skills are currently being developed</i>								
Marketing MFG	K-8th	High School	Parents	Tech Colleges	Employers	Unemployed Under Employed	➔	
Promotion to Workforce Pipeline								
<i>Post who, where and how to promote manufacturing</i>								
Challenges or Barriers								
<i>Post to address at a future time</i>								

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Prioritization Exercise: Promoting MFG

1. Each of you have been given 5 dots
2. If you are a manufacturer, your dots are red, all others are blue
3. Take your dots and place them on the ideas that have been advanced by each table that are of most interest to you
4. You may place all 5 dots on one, or spread them out over 5 ideas

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Recap: Morning Goal

To receive your input on how and where to proceed in closing the skills gap and growing a pipeline of **welders** and **machinists**

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Recap: Morning Outcomes

With your input and direction we will:

- Verify the fundamental skills required
- Identify the resources for education, training & development, and best practices and ideas
- Prioritize which resources to focus on for greatest impact in closing the gap
- Prioritize which avenues to market manufacturing jobs, careers and skills development

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Next Steps

Summarize the session
Present findings at M7 Council Meeting
November 3 in Racine
Call for you to give your time to help us organize
and move the priorities identified forward

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With gratitude to you all

Partners



Sponsors



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Lunch

Sponsor



Grab a box lunch to go,
or relax right here until 1:00pm

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SESSION PHOTOS





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