

# Skilled Trades/Technician Taskforce: CNC Machinists



1. When it comes to your company's ability to thrive in Southeast Michigan, what would you say is the top concern you face? (please choose one)

		Response Percent	Response Count
Finding new talent		83.3%	10
Retirements in current workforce		0.0%	0
Company's financial health/stability		0.0%	0
General health of regional economy		8.3%	1
Legal and regulatory system		0.0%	0
Physical infrastructure		0.0%	0
Supplier network		0.0%	0
Client network		0.0%	0
Local business dynamics		0.0%	0
Other, please specify		8.3%	1
		<b>answered question</b>	<b>12</b>
		<b>skipped question</b>	<b>0</b>

**2. For each of the following occupations, please specify the difficulty in filling each occupation (Please rate on a scale of 1-5, with 1 being not at all difficult and 5 being very difficult):**

	<b>Not difficult</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Very difficult</b>	<b>N/A</b>	<b>Rating Average</b>	<b>Response Count</b>
CNC machine tool operators	8.3% (1)	0.0% (0)	33.3% (4)	<b>41.7% (5)</b>	16.7% (2)	0.0% (0)	3.58	12
CNC set-up	0.0% (0)	9.1% (1)	9.1% (1)	<b>45.5% (5)</b>	27.3% (3)	9.1% (1)	4.00	11
CNC machine tool programmers	0.0% (0)	0.0% (0)	8.3% (1)	16.7% (2)	<b>75.0% (9)</b>	0.0% (0)	4.67	12
Welders, cutters, and welder fitters	0.0% (0)	8.3% (1)	25.0% (3)	16.7% (2)	8.3% (1)	<b>41.7% (5)</b>	3.43	12
Tool and die makers	0.0% (0)	0.0% (0)	0.0% (0)	16.7% (2)	33.3% (4)	<b>50.0% (6)</b>	4.67	12
Machinists	8.3% (1)	0.0% (0)	8.3% (1)	<b>66.7% (8)</b>	16.7% (2)	0.0% (0)	3.83	12
Automotive technician	0.0% (0)	0.0% (0)	8.3% (1)	8.3% (1)	0.0% (0)	<b>83.3% (10)</b>	3.50	12
Electrical/electronics technician	0.0% (0)	0.0% (0)	8.3% (1)	16.7% (2)	0.0% (0)	<b>75.0% (9)</b>	3.67	12
Engineering technician	0.0% (0)	0.0% (0)	8.3% (1)	<b>41.7% (5)</b>	8.3% (1)	<b>41.7% (5)</b>	4.00	12
Laboratory technician	0.0% (0)	0.0% (0)	16.7% (2)	0.0% (0)	8.3% (1)	<b>75.0% (9)</b>	3.67	12
Manufacturing technician	0.0% (0)	0.0% (0)	25.0% (3)	25.0% (3)	0.0% (0)	<b>50.0% (6)</b>	3.50	12
Mechatronics technician	0.0% (0)	0.0% (0)	8.3% (1)	0.0% (0)	0.0% (0)	<b>91.7% (11)</b>	3.00	12
Production maintenance technician	0.0% (0)	0.0% (0)	16.7% (2)	<b>50.0% (6)</b>	0.0% (0)	33.3% (4)	3.75	12
Service technician	0.0% (0)	0.0% (0)	0.0% (0)	41.7% (5)	8.3% (1)	<b>50.0% (6)</b>	4.17	12

answered question	12
skipped question	0

**3. When it comes to hiring talent for your firm's Southeast Michigan operations, how would you rate the following as challenges to your efforts? (Please rate on a scale of 1-5, with 1 being not at all a challenge and 5 being very much a challenge):**

	Not challenging	2	3	4	Very challenging	Rating Average	Response Count
General perception of Southeast Michigan as a place to live/work/play	<b>45.5% (5)</b>	18.2% (2)	18.2% (2)	18.2% (2)	0.0% (0)	2.09	11
Salary levels	0.0% (0)	16.7% (2)	<b>41.7% (5)</b>	16.7% (2)	25.0% (3)	3.50	12
Availability of talent with appropriate skills/training	0.0% (0)	0.0% (0)	0.0% (0)	41.7% (5)	<b>58.3% (7)</b>	4.58	12
People's awareness/understanding of career opportunities for themselves	8.3% (1)	16.7% (2)	8.3% (1)	<b>50.0% (6)</b>	16.7% (2)	3.50	12
The cost or availability of training/education to make sure workers have needed skills/attributes	0.0% (0)	25.0% (3)	<b>33.3% (4)</b>	8.3% (1)	<b>33.3% (4)</b>	3.50	12
Public transportation/commute	<b>50.0% (6)</b>	8.3% (1)	25.0% (3)	8.3% (1)	8.3% (1)	2.17	12
Cost of living in the region	25.0% (3)	<b>33.3% (4)</b>	<b>33.3% (4)</b>	8.3% (1)	0.0% (0)	2.25	12
Perception of manufacturing as a viable career option	0.0% (0)	16.7% (2)	8.3% (1)	<b>41.7% (5)</b>	33.3% (4)	3.92	12
Inability to sell home in another area	<b>40.0% (4)</b>	10.0% (1)	10.0% (1)	0.0% (0)	<b>40.0% (4)</b>	2.90	10
answered question							12
skipped question							0

**4. Is there another challenge experienced by your company to hiring talent that was not listed above? If so, please describe and rate the difficulty of this challenge using the same rating scale (e.g. 1=not challenging, 5=very challenging).**

**Response  
Count**

4

**answered question**

4

**skipped question**

8

**5. When it comes to finding workers with the right knowledge and skills, how would you rate the following as challenges to your efforts? (Please rate on a scale of 1-5, with 1 being not at all a challenge and 5 being very much a challenge):**

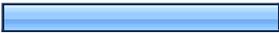
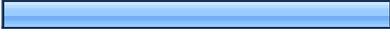
	<b>Not challenging</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Very challenging</b>	<b>Rating Average</b>	<b>Response Count</b>
Education and certifications	9.1% (1)	18.2% (2)	<b>27.3%</b> <b>(3)</b>	18.2% (2)	<b>27.3%</b> (3)	3.36	11
Amount of experience	0.0% (0)	0.0% (0)	16.7% (2)	<b>41.7%</b> <b>(5)</b>	<b>41.7%</b> (5)	4.25	12
Ready and able to learn continuously	8.3% (1)	16.7% (2)	25.0% (3)	<b>41.7%</b> <b>(5)</b>	8.3% (1)	3.25	12
Communication skills	0.0% (0)	<b>33.3%</b> <b>(4)</b>	<b>33.3%</b> <b>(4)</b>	16.7% (2)	16.7% (2)	3.17	12
Analytical and problem solving skills	0.0% (0)	25.0% (3)	25.0% (3)	<b>33.3%</b> <b>(4)</b>	16.7% (2)	3.42	12
Willing to work flexible hours (evenings/nights, weekends, holidays)	16.7% (2)	16.7% (2)	16.7% (2)	<b>25.0%</b> <b>(3)</b>	<b>25.0%</b> (3)	3.25	12
Technical skills	0.0% (0)	8.3% (1)	16.7% (2)	33.3% (4)	<b>41.7%</b> (5)	4.08	12
Other (please specify) with challenge rating							1
<b>answered question</b>							<b>12</b>
<b>skipped question</b>							<b>0</b>

**6. How important are the following skill sets for CNC machinists in your business? (Please rate on a scale of 1-5, with 1 being not at all important and 5 being very important)**

	not at all important				very important	Rating Average	Response Count
CAD/CAM programming	16.7% (2)	16.7% (2)	0.0% (0)	16.7% (2)	<b>50.0% (6)</b>	3.67	12
Robotics	<b>58.3% (7)</b>	8.3% (1)	25.0% (3)	8.3% (1)	0.0% (0)	1.83	12
Materials	16.7% (2)	25.0% (3)	8.3% (1)	<b>41.7% (5)</b>	8.3% (1)	3.00	12
Lathe set-up	8.3% (1)	16.7% (2)	16.7% (2)	16.7% (2)	<b>41.7% (5)</b>	3.67	12
Lathe operation	8.3% (1)	8.3% (1)	<b>33.3% (4)</b>	16.7% (2)	<b>33.3% (4)</b>	3.58	12
Lathe programming	16.7% (2)	8.3% (1)	16.7% (2)	16.7% (2)	<b>41.7% (5)</b>	3.58	12
Print reading	0.0% (0)	8.3% (1)	25.0% (3)	16.7% (2)	<b>50.0% (6)</b>	4.08	12
Mill set up	8.3% (1)	0.0% (0)	8.3% (1)	33.3% (4)	<b>50.0% (6)</b>	4.17	12
Mill operation	0.0% (0)	0.0% (0)	25.0% (3)	33.3% (4)	<b>41.7% (5)</b>	4.17	12
Mill programming	8.3% (1)	0.0% (0)	0.0% (0)	25.0% (3)	<b>66.7% (8)</b>	4.42	12
GD&T	0.0% (0)	0.0% (0)	33.3% (4)	<b>41.7% (5)</b>	25.0% (3)	3.92	12
3D contouring	9.1% (1)	18.2% (2)	9.1% (1)	27.3% (3)	<b>36.4% (4)</b>	3.64	11
4 or 5 Axis	0.0% (0)	9.1% (1)	27.3% (3)	27.3% (3)	<b>36.4% (4)</b>	3.91	11
Manual operations	8.3% (1)	8.3% (1)	25.0% (3)	<b>33.3% (4)</b>	25.0% (3)	3.58	12
Inspection operations	8.3% (1)	8.3% (1)	16.7% (2)	16.7% (2)	<b>50.0% (6)</b>	3.92	12
Tool and work holding (lathe, vertical mill, etc.)	0.0% (0)	8.3% (1)	33.3% (4)	8.3% (1)	<b>50.0% (6)</b>	4.00	12
Turning set up	8.3% (1)	8.3% (1)	33.3% (4)	8.3% (1)	<b>41.7% (5)</b>	3.67	12
Turning operation	8.3% (1)	8.3% (1)	33.3% (4)	8.3% (1)	<b>41.7% (5)</b>	3.67	12
Turning programming	9.1% (1)	9.1% (1)	27.3% (3)	9.1% (1)	<b>45.5% (5)</b>	3.73	11
Cutter compens. and wear offsets	0.0% (0)	8.3% (1)	16.7% (2)	<b>50.0% (6)</b>	25.0% (3)	3.92	12

Speeds & feeds	0.0% (0)	8.3% (1)	16.7% (2)	<b>41.7% (5)</b>	33.3% (4)	4.00	12
Tool offsets and work offsets	0.0% (0)	0.0% (0)	25.0% (3)	<b>41.7% (5)</b>	33.3% (4)	4.08	12
Canned cycles	0.0% (0)	16.7% (2)	16.7% (2)	<b>50.0% (6)</b>	16.7% (2)	3.67	12
G&M codes	0.0% (0)	0.0% (0)	25.0% (3)	<b>50.0% (6)</b>	25.0% (3)	4.00	12
Other (please specify) with importance rating							0
<b>answered question</b>							<b>12</b>
<b>skipped question</b>							<b>0</b>

**7. When you find CNC machinists, are they frequently missing/weak on some of these skills? (Please choose all that apply)**

		Response Percent	Response Count
CAD/CAM programming		66.7%	8
Robotics		16.7%	2
Materials		25.0%	3
Lathe set-up		16.7%	2
Lathe operation		0.0%	0
Lathe programming		41.7%	5
Print reading		41.7%	5
Mill set up		25.0%	3
Mill operation		25.0%	3
Mill programming		58.3%	7
GD&T		33.3%	4
3D contouring		25.0%	3
4 or 5 Axis		50.0%	6
Manual operations		25.0%	3
Inspection operations		41.7%	5
Tool and work holding (lathe, vertical mill, etc.)		8.3%	1
Turning set up		16.7%	2
Turning operation		0.0%	0
Turning programming		25.0%	3
Cutter compens. and wear offsets		33.3%	4
Speeds & feeds		41.7%	5

Tool offsets and work offsets		25.0%	3
Canned cycles		16.7%	2
G&M codes		50.0%	6
Other (please specify)			0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

**8. What is important to you when you are looking to hire a candidate CNC machinist?  
(Please choose your top 3)**

		Response Percent	Response Count
Program skill certificate		8.3%	1
2-year associate of applied science degree		8.3%	1
Bachelor of science degree in technology		0.0%	0
Wage or salary level		66.7%	8
Internships or apprenticeships		16.7%	2
Journeyman credential		8.3%	1
Portfolio of experience		66.7%	8
<b>Demonstrations of skills/competencies</b>		<b>91.7%</b>	<b>11</b>
National skills certification developed by a panel of national CNC employers		0.0%	0
Other (please specify)			1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

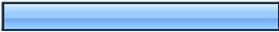
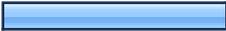
## 9. How aware are you of prevailing wages in your region?

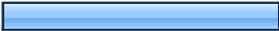
	Not at all aware				Very aware	Rating Average	Response Count
	0.0% (0)	8.3% (1)	33.3% (4)	0.0% (0)	<b>58.3% (7)</b>	4.08	12
<b>answered question</b>							<b>12</b>
<b>skipped question</b>							<b>0</b>

## 10. What would you say is the strategy closest to the one you use when determining wage levels for your employees?

		Response Percent	Response Count
Gut instinct		0.0%	0
Whatever my company can afford		16.7%	2
<b>Investigation of salaries offered by peer firms/competitors</b>		<b>33.3%</b>	<b>4</b>
Review of job postings		25.0%	3
Salary/wage data acquired from government		0.0%	0
Salary wage data acquired from employer/professional/other societies		25.0%	3
Other (please describe)			1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

**11. Please indicate if you would find the following types of workforce development interventions valuable to your business. (please choose your top 3)**

		Response Percent	Response Count
Using a national manufacturing skills standards developed by a panel of national CNC employers to hire new talent		41.7%	5
Customized workforce training		41.7%	5
Partnering with other employers to pool their training/education investment to train my current workforce at reduced cost		33.3%	4
<b>Working closely with public talent partners (colleges, workforce development, etc.) to help them customize curriculum to meet my industry's needs</b>		<b>83.3%</b>	<b>10</b>
Acquiring real-time data of certain skilled trade/technician skillsets		25.0%	3
Using new tools and processes that help make a better skills match between my business and potential applicants		25.0%	3
Helping my business find better ways to "hire locally" from the immediate community		41.7%	5
Working with K-12 partners to help young people understand the advantages of skilled trades/technicians/manufacturing as a future career option		25.0%	3
Creating a skilled trades brand in SE Michigan		33.3%	4
Entry worker training		25.0%	3
Incumbent worker training/upskilling current workforce		33.3%	4

Math and literacy testing for new workers		25.0%	3
Understanding prevailing wages in my region		25.0%	3
Partnering with the state and others to attract/retain workers in the region		41.7%	5
		Other (please specify)	0
		<b>answered question</b>	<b>12</b>
		<b>skipped question</b>	<b>0</b>

**12. What would you say is the single most important thing that the manufacturing industry could do to help grow the regional talent base for CNC machinists in Southeast Michigan? (Answer may or may not incorporate above categories)**

	Response Count
	10
<b>answered question</b>	<b>10</b>
<b>skipped question</b>	<b>2</b>

**13. What would you say is the single most important thing that regional partners (government, education, economic development, etc.) could do to help your firm find the talent that it needs in Southeast Michigan?**

	Response Count
	9
<b>answered question</b>	<b>9</b>
<b>skipped question</b>	<b>3</b>

**14. With whom do you currently partner to meet the workforce needs? (You may select more than one answer)**

		Response Percent	Response Count
Local workforce investment boards		36.4%	4
One-stop career centers		9.1%	1
<b>Community colleges</b>		<b>90.9%</b>	<b>10</b>
Universities		18.2%	2
Adult education		9.1%	1
Private training institutions		9.1%	1
Staffing agencies		63.6%	7
Not involved in any partnerships at this time		9.1%	1
Other, please specify		9.1%	1
<b>answered question</b>			<b>11</b>
<b>skipped question</b>			<b>1</b>

**15. Would you be interested and willing to work with other manufacturing firms, educational and training providers as part of a regional planning strategy to identify and address skilled trades and technicians (and in particular CNC) workforce needs?**

		Response Percent	Response Count
Yes		88.9%	8
No		11.1%	1
Comment:			3
<b>answered question</b>			<b>9</b>
<b>skipped question</b>			<b>3</b>

**16. What role are you willing to play to help develop workers with the talent/experience you require for your business? (You may select more than one answer)**

		Response Percent	Response Count
Hiring someone who needs a little on the job training/support		81.8%	9
Providing a paid internship		18.2%	2
Providing an unpaid internship		27.3%	3
Providing apprenticeship opportunities		63.6%	7
Providing mentorship opportunities		18.2%	2
Offering job shadowing opportunities		36.4%	4
Other, please specify		9.1%	1
		<b>answered question</b>	<b>11</b>
		<b>skipped question</b>	<b>1</b>

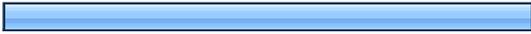
**17. Please identify how many people your organization presently employs in the State of Michigan.**

		Response Percent	Response Count
Fewer than 15		10.0%	1
16 - 25		30.0%	3
26 - 50		10.0%	1
51 - 100		10.0%	1
101 +		40.0%	4
	Other (please specify)		0
<b>answered question</b>			<b>10</b>
<b>skipped question</b>			<b>2</b>

**18. What is your firm's annual sales?**

	Response Count
	7
<b>answered question</b>	<b>7</b>
<b>skipped question</b>	<b>5</b>

**19. Would you say your company has any of the following capabilities? (check all that apply)**

		Response Percent	Response Count
Low-volume, custom design or prototyping		60.0%	6
<b>Low-volume, custom production</b>		<b>80.0%</b>	<b>8</b>
Rapid modeling/prototyping		30.0%	3
Rapid production		20.0%	2
None of the above		10.0%	1
	Other (please specify)		3
	<b>answered question</b>		<b>10</b>
	<b>skipped question</b>		<b>2</b>

**20. Are you interested in participating in an initiative to grow Southeast Michigan's custom design/production capability? (If you are, please remember to leave your contact information below so we can follow up with more information)**

		Response Percent	Response Count
yes		88.9%	8
no		11.1%	1
	<b>answered question</b>		<b>9</b>
	<b>skipped question</b>		<b>3</b>

**21. OPTIONAL: Please identify your name, company name, and contact information below.**

		Response Percent	Response Count
Name		100.0%	7
Company		100.0%	7
Address 1		100.0%	7
Address 2		14.3%	1
City		100.0%	7
State		100.0%	7
Zip		100.0%	7
Email Address		100.0%	7
		<b>answered question</b>	<b>7</b>
		<b>skipped question</b>	<b>5</b>

**Page 2, Q1. When it comes to your company's ability to thrive in Southeast Michigan, what would you say is the top concern you face? (please choose one)**

1	very difficult to pick just one all w/have an impact	Sep 23, 2012 6:21 AM
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**Page 2, Q2. For each of the following occupations, please specify the difficulty in filling each occupation (Please rate on a scale of 1-5, with 1 being not at all difficult and 5 being very difficult):**

1	Specialty machining such as EDM RAM and wire is extremely hard to find. Machinists that can hold tight tolerances is extremely difficult to find.	Sep 27, 2012 5:34 AM
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2	Old school grinding/cutting machines, hydromat operators	Sep 21, 2012 6:41 AM
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**Page 2, Q4. Is there another challenge experienced by your company to hiring talent that was not listed above? If so, please describe and rate the difficulty of this challenge using the same rating scale (e.g. 1=not challenging, 5=very challenging).**

1	Finding qualified applicants who can successfully complete a hair drug screen analysis. 4	Sep 27, 2012 10:37 AM
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2	Employees move when the work slows to under 40 and some move when their is too much overtime. The market is extremely cyclical and the employees move about with ease costing employers alot of time and money. - 5	Sep 27, 2012 5:34 AM
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3	very challenging: individuals wanting to stay on unemployment individuals not being able to pass physicals/drug test	Sep 23, 2012 6:21 AM
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4	5 Lack of K-12 education contribution.	Sep 20, 2012 9:35 AM
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**Page 2, Q5. When it comes to finding workers with the right knowledge and skills, how would you rate the following as challenges to your efforts? (Please rate on a scale of 1-5, with 1 being not at all a challenge and 5 being very much a challenge):**

1	Many manufacturers are still using old technology/equipment	Sep 21, 2012 6:41 AM
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**Page 2, Q8. What is important to you when you are looking to hire a candidate CNC machinist? (Please choose your top 3)**

1	work ethics	Sep 21, 2012 6:41 AM
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**Page 2, Q10. What would you say is the strategy closest to the one you use when determining wage levels for your employees?**

1	UAW contract	Sep 21, 2012 6:41 AM
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**Page 3, Q12. What would you say is the single most important thing that the manufacturing industry could do to help grow the regional talent base for CNC machinists in Southeast Michigan? (Answer may or may not incorporate above categories)**

1	Make it known that these skills continue to be valuable and marketable for those who chose to develop them.	Sep 27, 2012 10:56 AM
2	Pay more and educate on opportunities	Sep 27, 2012 7:31 AM
3	Schools such as SC4 bringing back the CNC Apprentice program. This in turn aids us in assisting in the further education of our employees or future employees.	Sep 27, 2012 7:06 AM
4	Scale up quickly to meet the needs and start filling the empty pipeline for the long term.	Sep 27, 2012 5:37 AM
5	to implement strong vocational studies in high school and into college	Sep 23, 2012 6:29 AM
6	Provide more resources through technical training in high school and partner w/ local colleges	Sep 21, 2012 6:46 AM
7	Formal training programs	Sep 20, 2012 12:24 PM
8	Change the perception of manufacturing in the community / State	Sep 20, 2012 9:42 AM
9	working with community college	Sep 19, 2012 12:13 PM
10	Get young people involved. Promote the industry.	Sep 19, 2012 8:20 AM

**Page 3, Q13. What would you say is the single most important thing that regional partners (government, education, economic development, etc.) could do to help your firm find the talent that it needs in Southeast Michigan?**

1	Make it known that these skills continue to be valuable and marketable for those who chose to develop them.	Sep 27, 2012 10:56 AM
2	Need building the workforce, not finding them.	Sep 27, 2012 7:31 AM
3	Funding assistance for educational programs such as the one just beginning at Thumb Works.	Sep 27, 2012 7:06 AM
4	Training and marketing the opportunities	Sep 27, 2012 5:37 AM
5	Train more and provide more funding for educating adult workers	Sep 21, 2012 6:46 AM
6	provide funding fro internal training	Sep 20, 2012 12:24 PM
7	Recognition of manufacturing as an academic achievement.	Sep 20, 2012 9:42 AM
8	working with community college	Sep 19, 2012 12:13 PM
9	Provide funding for technical training schools - cnc programs	Sep 19, 2012 8:20 AM

**Page 3, Q14. With whom do you currently partner to meet the workforce needs? (You may select more than one answer)**

1	Federal Government and multi-nationals	Sep 27, 2012 5:37 AM
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**Page 3, Q15. Would you be interested and willing to work with other manufacturing firms, educational and training providers as part of a regional planning strategy to identify and address skilled trades and technicians (and in particular CNC) workforce needs?**

1	Primarily due to our location	Sep 27, 2012 7:06 AM
2	I currently am	Sep 27, 2012 5:37 AM
3	would consider the opportunity	Sep 23, 2012 6:29 AM

**Page 3, Q16. What role are you willing to play to help develop workers with the talent/experience you require for your business? (You may select more than one answer)**

1	All but dependent on our customers	Sep 27, 2012 7:31 AM
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**Page 4, Q18. What is your firm's annual sales?**

1	\$160M	Sep 27, 2012 7:32 AM
2	8 million	Sep 27, 2012 7:10 AM
3	3.0 million	Sep 27, 2012 5:38 AM
4	3 - 5 m	Sep 23, 2012 6:31 AM
5	50,000,000	Sep 20, 2012 9:44 AM
6	NA	Sep 20, 2012 5:16 AM
7	3.5 million	Sep 19, 2012 8:21 AM

**Page 4, Q19. Would you say your company has any of the following capabilities? (check all that apply)**

1	Staffing	Sep 27, 2012 7:32 AM
2	some instances are a much higher volume.	Sep 27, 2012 7:10 AM
3	I am answering for two of our companies that do different businesses - but both are in manufacturing	Sep 21, 2012 6:48 AM

[REDACTED]		
[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]