

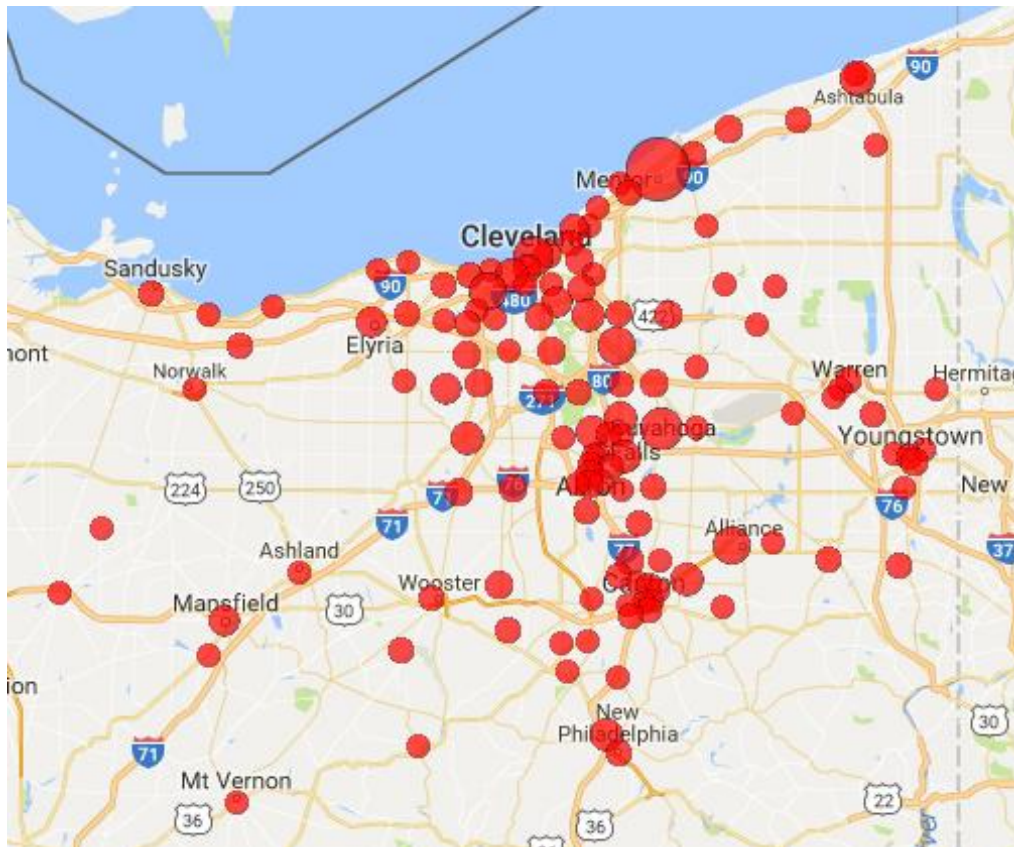
Summary Report MAGNET Manufacturing Survey

December 2016: 309 responses from 272 companies

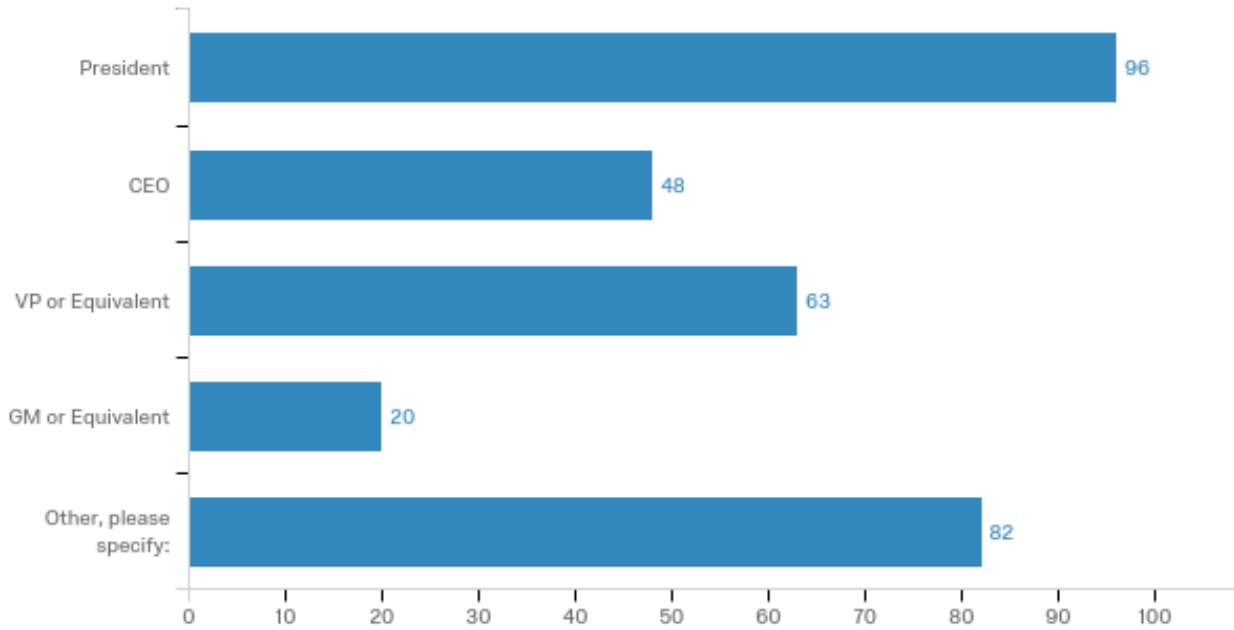
MAGNET partnered with The Corporate University, Kent State University at Stark to conduct a survey of manufacturers located within Northeast/Northcentral Ohio. Companies across the region were invited to participate in the survey through multi-channel outreach campaign conducted by MAGNET, regional partners and manufacturing contacts. The following summary report contains the data collected from 309 respondents representing 272 companies. The actual survey text is included for each question (excluding Q1 survey instructions) contained in the survey along with frequency graphs, sorted tables and cross-tabulations.

Q2 - In exchange for completing the survey, we will share the results with you. Please enter your company, email (confidential - only to be used to email survey report when it is released) and ZIP.

In order to maintain the confidentiality of the respondents, only the ZIP code of the respondents is represented in the graph below. The majority of responses were received from the Cleveland-Akron-Canton corridor.



Q3 - What is your job title?

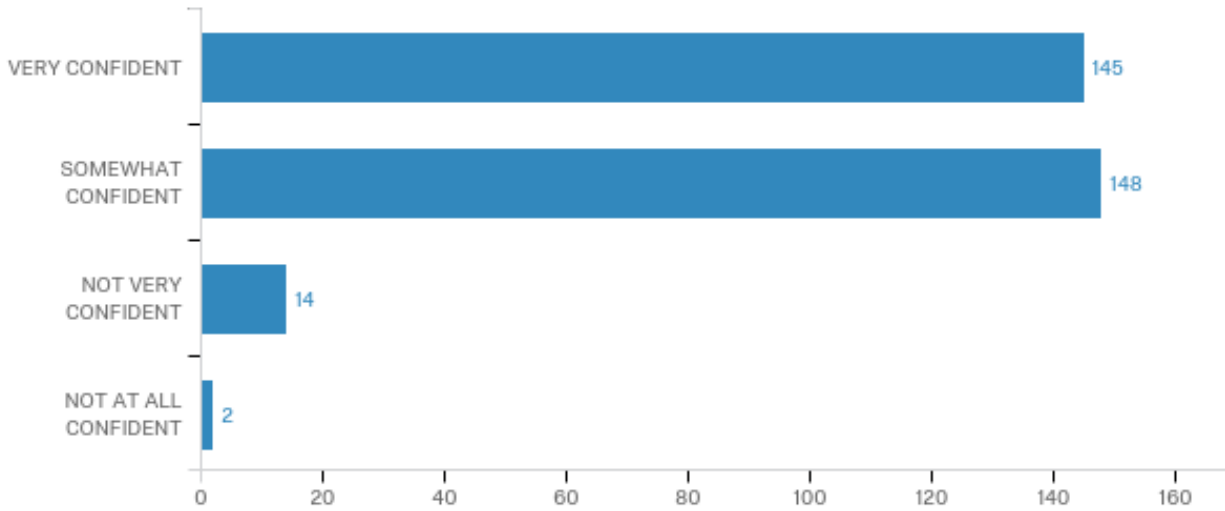


Answer	%	Count
President	31.07%	96
Other, please specify:	26.54%	82
VP or Equivalent	20.39%	63
CEO	15.53%	48
GM or Equivalent	6.47%	20
Total	100%	309

Respondents most frequently reported their job title as president or other (please specify). Other (please specify) results are represented in the word cloud below with the most frequent response of manager.

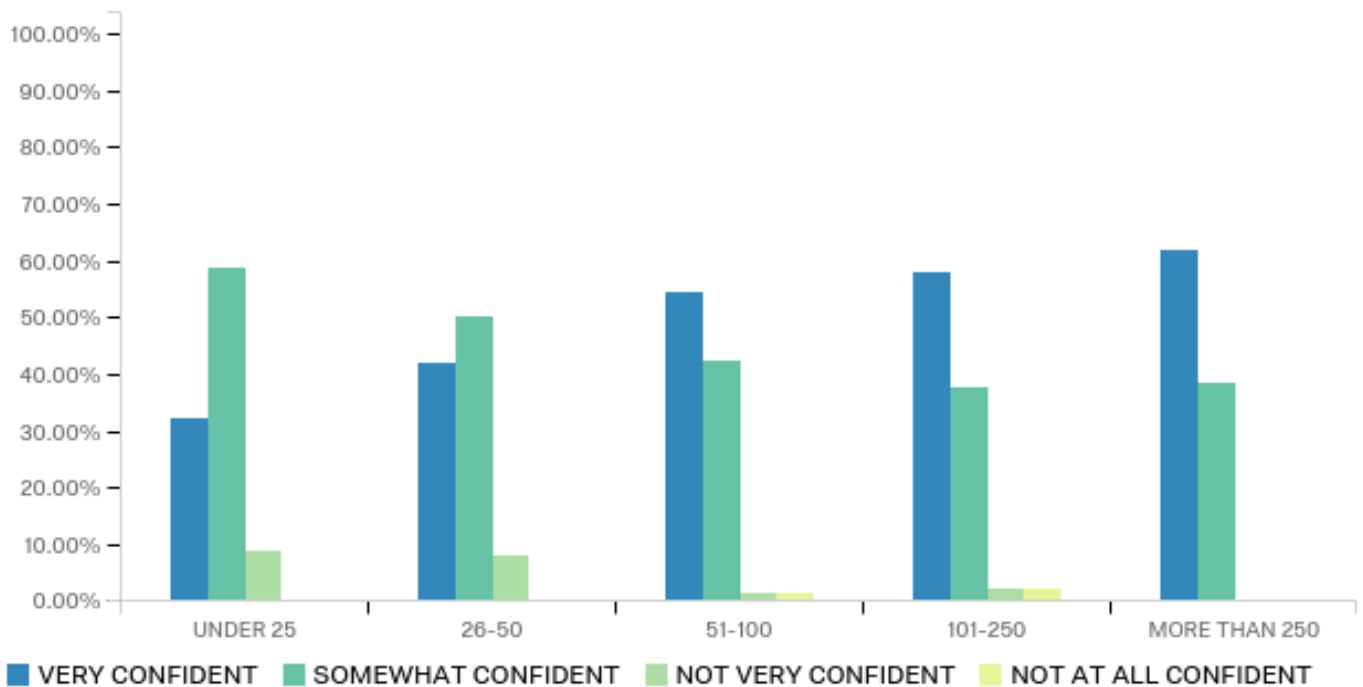


Q4 - From a financial perspective, how do you feel right now about the future for your company?

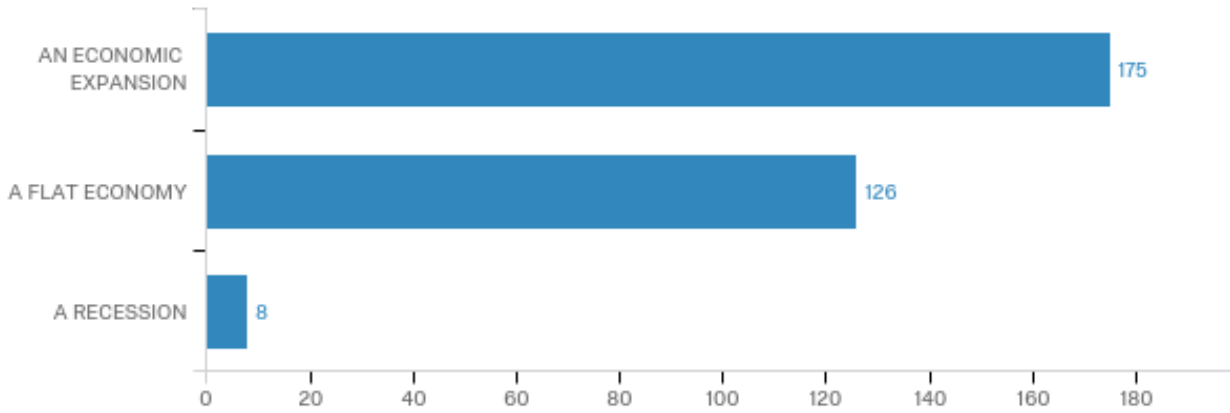


Answer	%	Count
SOMEWHAT CONFIDENT	47.90%	148
VERY CONFIDENT	46.93%	145
NOT VERY CONFIDENT	4.53%	14
NOT AT ALL CONFIDENT	0.65%	2
Total	100%	309

Approximately 94% of respondents indicated they feel somewhat or very confident about the future of their company. When the results are broken out by number of employees (Q27) as seen in the graph below, company respondents with less employees indicated they are not as confident as those with more employees.



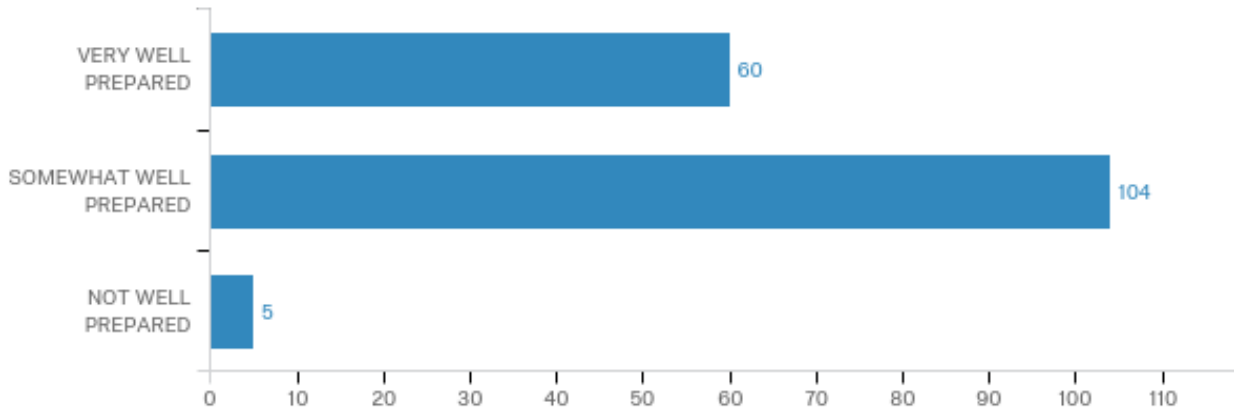
Q5 - Thinking about the upcoming year, in 2017, do you anticipate an economic expansion, a flat economy, or a recession?



Answer	%	Count
AN ECONOMIC EXPANSION	56.63%	175
A FLAT ECONOMY	40.78%	126
A RECESSION	2.59%	8
Total	100%	309

A 57% majority of respondents indicated their anticipation of an economic expansion, while 41% indicated a flat economy.

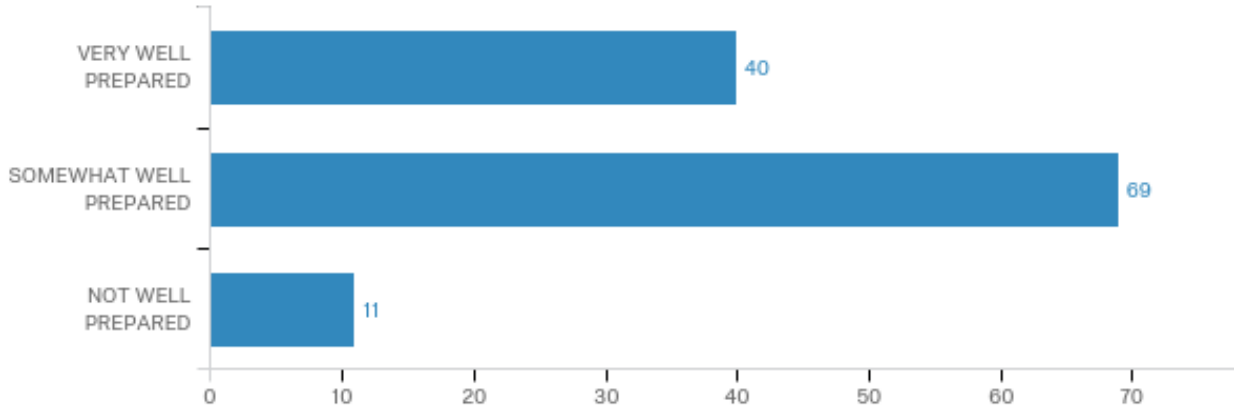
Q6 - How well do you feel your firm is prepared to handle AN ECONOMIC EXPANSION?



Answer	%	Count
SOMEWHAT WELL PREPARED	61.54%	104
VERY WELL PREPARED	35.50%	60
NOT WELL PREPARED	2.96%	5
Total	100%	169

Approximately, 97% of respondents who anticipate an economic expansion indicated their company is somewhat well or vey well prepared to handle it.

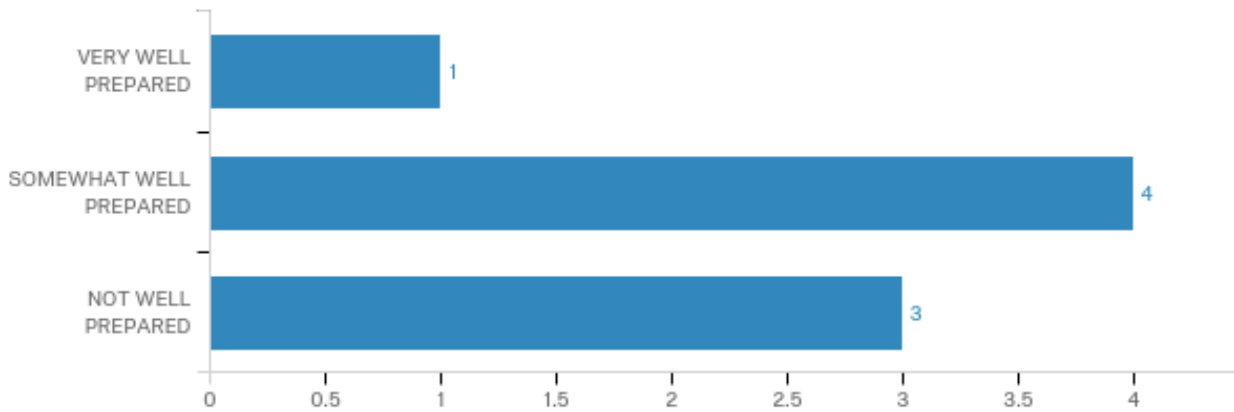
Q7 - How well do you feel your firm is prepared to handle A FLAT ECONOMY?



Answer	%	Count
SOMEWHAT WELL PREPARED	57.50%	69
VERY WELL PREPARED	33.33%	40
NOT WELL PREPARED	9.17%	11
Total	100%	120

Approximately 91% of respondents who anticipate a flat economy indicated their company is somewhat well or very well prepared to handle it.

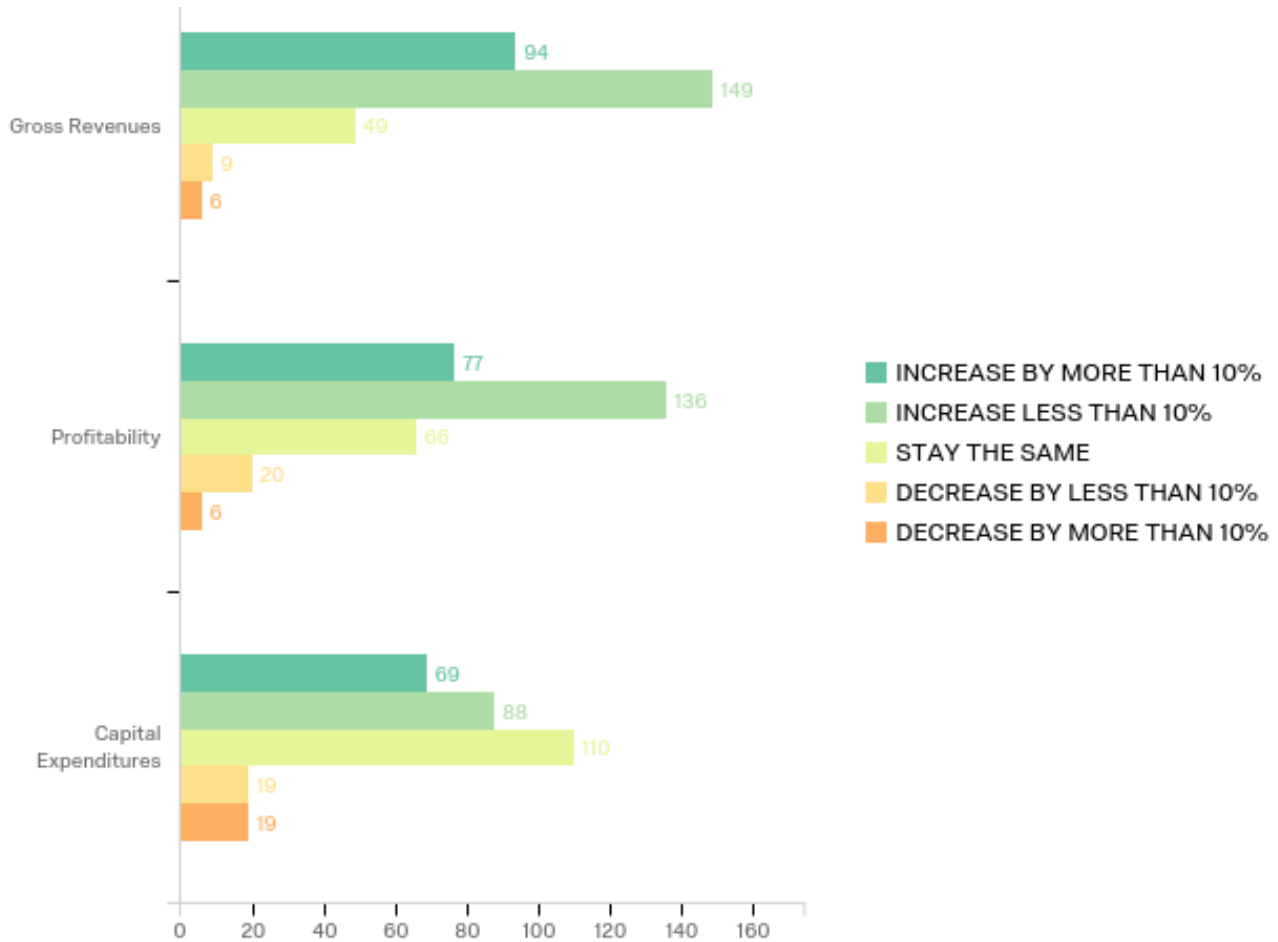
Q8 - How well do you feel your firm is prepared to handle A RECESSION?



Answer	%	Count
SOMEWHAT WELL PREPARED	50.00%	4
NOT WELL PREPARED	37.50%	3
VERY WELL PREPARED	12.50%	1
Total	100%	8

Of the small number respondents who anticipate a recession, a majority indicated their company is somewhat well prepared to handle it, while over a third indicated their company is not well prepared.

Q9 - As you look at 2017, how do you project the measures below to increase or decrease compared to 2016?



Measure	INCREASE BY MORE THAN 10%	INCREASE LESS THAN 10%	STAY THE SAME	DECREASE BY LESS THAN 10%	DECREASE BY MORE THAN 10%	Total
Gross Revenues	30.62%	48.53%	15.96%	2.93%	1.95%	307
Profitability	25.25%	44.59%	21.64%	6.56%	1.97%	305
Capital Expenditures	22.62%	28.85%	36.07%	6.23%	6.23%	305

Most respondents projected gross revenues and profitability will increase. While the majority of respondents also indicated capital expenditures will increase, it did not show the same strength as it was more frequently projected to stay the same. When the data is broken out by employee size (Q27) as in the table below, larger companies projected less growth of gross revenues and profitability than smaller companies.

		UNDER 25	26-50	51-100	101-250	MORE THAN 250
Gross Revenues	INCREASE BY MORE THAN 10%	42.22%	22.92%	36.36%	15.56%	14.71%
	INCREASE LESS THAN 10%	36.67%	54.17%	42.42%	68.89%	58.82%
	STAY THE SAME	17.78%	18.75%	15.15%	11.11%	17.65%
	DECREASE BY LESS THAN 10%	2.22%	4.17%	1.52%	4.44%	2.94%
	DECREASE BY MORE THAN 10%	1.11%	0.00%	4.55%	0.00%	5.88%
Profitability	INCREASE BY MORE THAN 10%	33.33%	25.00%	26.15%	13.33%	21.21%
	INCREASE LESS THAN 10%	34.44%	39.58%	38.46%	68.89%	51.52%
	STAY THE SAME	25.56%	25.00%	23.08%	11.11%	18.18%
	DECREASE BY LESS THAN 10%	5.56%	10.42%	7.69%	6.67%	3.03%
	DECREASE BY MORE THAN 10%	1.11%	0.00%	4.62%	0.00%	6.06%
Capital Expenditures	INCREASE BY MORE THAN 10%	26.67%	20.83%	29.23%	8.89%	24.24%
	INCREASE LESS THAN 10%	16.67%	31.25%	30.77%	48.89%	24.24%
	STAY THE SAME	44.44%	39.58%	27.69%	35.56%	24.24%
	DECREASE BY LESS THAN 10%	6.67%	4.17%	4.62%	2.22%	12.12%
	DECREASE BY MORE THAN 10%	5.56%	4.17%	7.69%	4.44%	15.15%

Q10 - Click all of the following statements that apply to you (please read each statement):

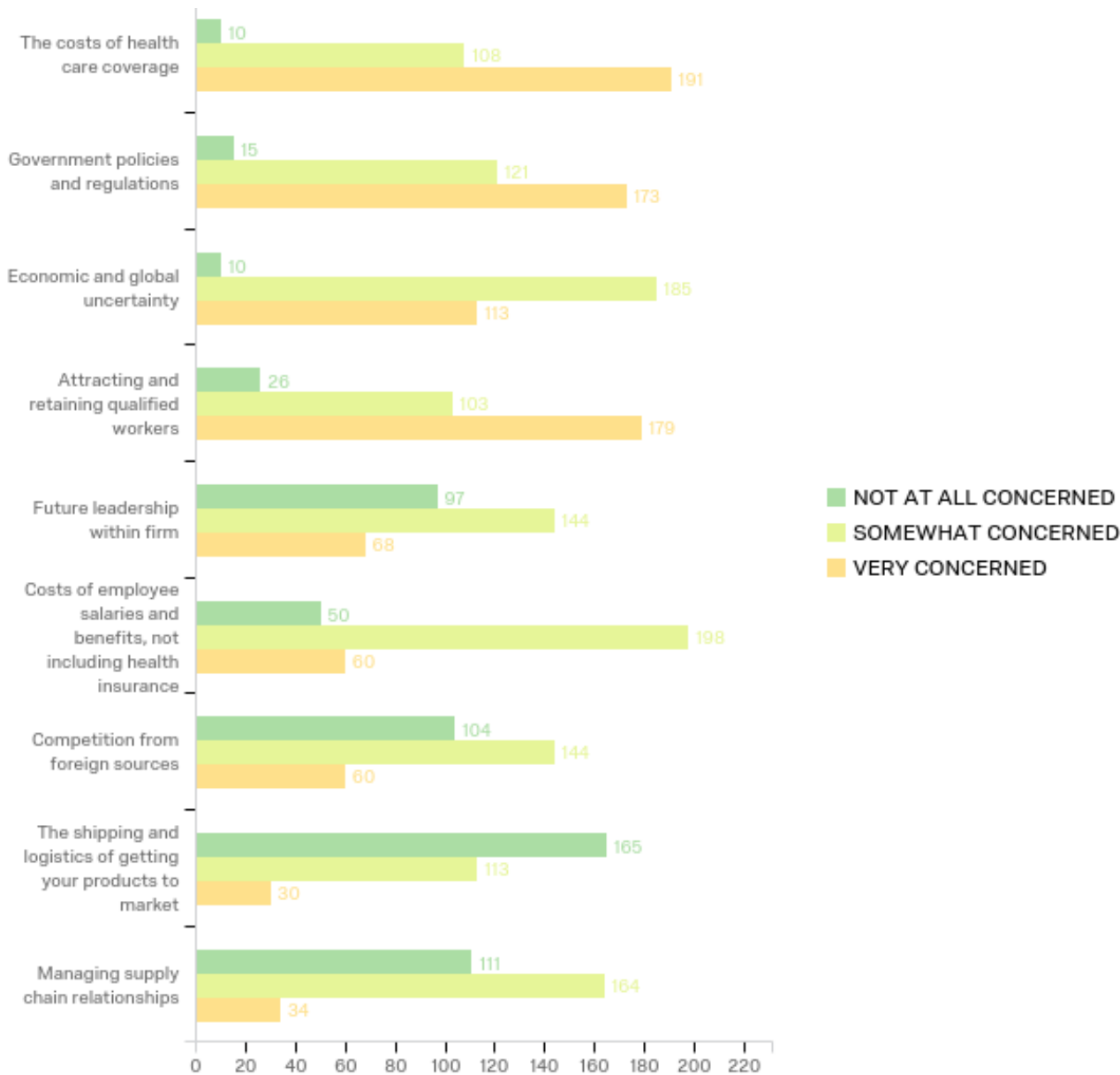
My company...

Statement	%	Count
...has launched a new product or service in the last year	57.67%	173
...uses some automation	57.00%	171
...has an ERP system	54.67%	164
...understands what cybersecurity is and we have worked to protect our machines and blueprints	54.33%	163
...could use more automation	50.00%	150
...has a formal strategic growth plan	49.67%	149
...participates in manufacturing day/month activities, does plant tours for students, gives internships to students, or similar activities	49.00%	147
...uses digital marketing well	40.33%	121
...has a formal or informal apprenticeship program	35.00%	105
...uses digital manufacturing, internet of things, connected machines, or similar technologies on my shop floor today	34.67%	104
...uses 3D/Additive printing	18.33%	55
...uses a lot of automation	15.00%	45
Total	100%	300

The majority of respondents indicated their company launched a new product or service in the last year, uses automation, has an ERP system and understands cybersecurity. Less than 20% of respondent companies use 3D printing or a lot of automation. When the results are broken out by number of employees (Q27) as seen below, the influence of company size on these answers is apparent. For example, larger companies more frequently reported using 3D printing or a lot of automation, while small companies under 25 employees are less frequently reported having an ERP system. The top three answers for each employee size category have been bolded in the chart below.

	UNDER 25	26-50	51-100	101-250	MORE THAN 250
...participates in manufacturing day/month activities, does plant tours for students, gives internships to students, or similar activities	36.90%	30.61%	53.03%	62.22%	73.53%
...has a formal strategic growth plan	35.71%	32.65%	63.64%	60.00%	67.65%
...has an ERP system	23.81%	73.47%	65.15%	73.33%	67.65%
...uses some automation	44.05%	61.22%	63.64%	68.89%	61.76%
...has a formal or informal apprenticeship program	26.19%	24.49%	46.97%	37.78%	58.82%
...has launched a new product or service in the last year	52.38%	42.86%	62.12%	71.11%	58.82%
...uses digital manufacturing, internet of things, connected machines, or similar technologies on my shop floor today	19.05%	51.02%	33.33%	33.33%	52.94%
...could use more automation	46.43%	51.02%	54.55%	57.78%	52.94%
...understands what cybersecurity is and we have worked to protect our machines and blueprints	41.67%	63.27%	59.09%	68.89%	50.00%
...uses 3D/Additive printing	15.48%	10.20%	10.61%	28.89%	47.06%
...uses digital marketing well	34.52%	32.65%	46.97%	42.22%	38.24%
...uses a lot of automation	10.71%	14.29%	15.15%	15.56%	32.35%

Q11 - For each factor below, please rate how concerned your firm is about that particular factor.



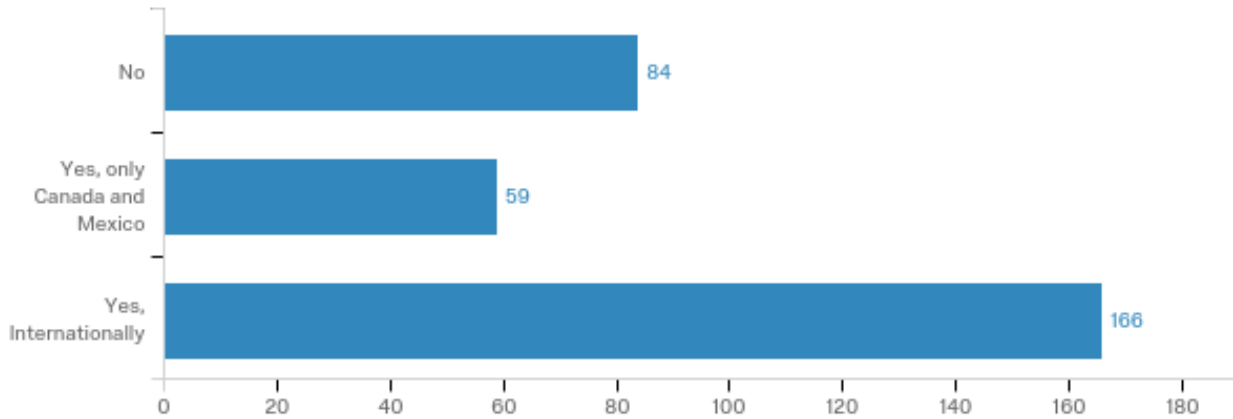
Factor	NOT AT ALL CONCERNED	SOMEWHAT CONCERNED	VERY CONCERNED	Total
The costs of health care coverage	3.24%	34.95%	61.81%	309
Government policies and regulations	4.85%	39.16%	55.99%	309
Economic and global uncertainty	3.25%	60.06%	36.69%	308
Attracting and retaining qualified workers	8.44%	33.44%	58.12%	308
Future leadership within firm	31.39%	46.60%	22.01%	309
Costs of employee salaries and benefits, not including health insurance	16.23%	64.29%	19.48%	308
Competition from foreign sources	33.77%	46.75%	19.48%	308
The shipping and logistics of getting your products to market	53.57%	36.69%	9.74%	308
Managing supply chain relationships	35.92%	53.07%	11.00%	309

Respondents indicated their company is most concerned with healthcare costs, government policy/regulation, economic/global uncertainty and attracting/retaining employees.

When the results are broken out by number of employees (Q27) as seen in the table below, respondents from companies over 250 employees reported lower concern about the cost of healthcare coverage. The most frequent response for each factor is bolded under each category.

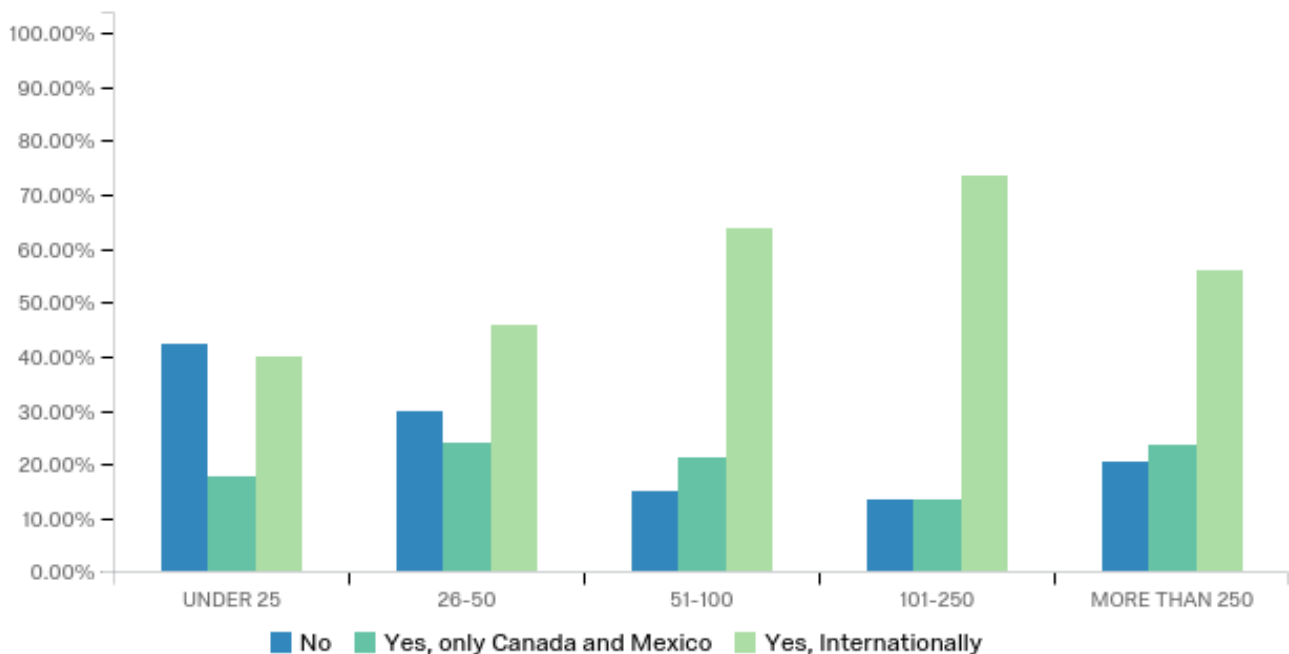
		UNDER 25	26-50	51-100	101-250	MORE THAN 250
The costs of health care coverage	NOT AT ALL CONCERNED	7.78%	0.00%	3.03%	0.00%	2.94%
	SOMEWHAT CONCERNED	32.22%	24.00%	37.88%	28.89%	52.94%
	VERY CONCERNED	60.00%	76.00%	59.09%	71.11%	44.12%
Government policies and regulations	NOT AT ALL CONCERNED	10.00%	2.00%	0.00%	2.22%	2.94%
	SOMEWHAT CONCERNED	40.00%	38.00%	34.85%	51.11%	32.35%
	VERY CONCERNED	50.00%	60.00%	65.15%	46.67%	64.71%
Economic and global uncertainty	NOT AT ALL CONCERNED	5.56%	0.00%	0.00%	2.22%	2.94%
	SOMEWHAT CONCERNED	60.00%	54.00%	67.69%	60.00%	61.76%
	VERY CONCERNED	34.44%	46.00%	32.31%	37.78%	35.29%
Attracting and retaining qualified workers	NOT AT ALL CONCERNED	13.33%	6.00%	3.08%	6.67%	2.94%
	SOMEWHAT CONCERNED	37.78%	30.00%	40.00%	24.44%	35.29%
	VERY CONCERNED	48.89%	64.00%	56.92%	68.89%	61.76%
Future leadership within firm	NOT AT ALL CONCERNED	24.44%	32.00%	33.33%	24.44%	38.24%
	SOMEWHAT CONCERNED	50.00%	46.00%	46.97%	48.89%	47.06%
	VERY CONCERNED	25.56%	22.00%	19.70%	26.67%	14.71%
Costs of employee salaries and benefits, not including health insurance	NOT AT ALL CONCERNED	15.56%	16.00%	16.92%	6.67%	20.59%
	SOMEWHAT CONCERNED	61.11%	58.00%	72.31%	73.33%	58.82%
	VERY CONCERNED	23.33%	26.00%	10.77%	20.00%	20.59%
Competition from foreign sources	NOT AT ALL CONCERNED	36.67%	34.00%	24.62%	37.78%	35.29%
	SOMEWHAT CONCERNED	44.44%	42.00%	55.38%	51.11%	44.12%
	VERY CONCERNED	18.89%	24.00%	20.00%	11.11%	20.59%
The shipping and logistics of getting your products to market	NOT AT ALL CONCERNED	51.11%	53.06%	57.58%	48.89%	52.94%
	SOMEWHAT CONCERNED	37.78%	40.82%	33.33%	37.78%	44.12%
	VERY CONCERNED	11.11%	6.12%	9.09%	13.33%	2.94%
Managing supply chain relationships	NOT AT ALL CONCERNED	34.44%	40.00%	37.88%	31.11%	26.47%
	SOMEWHAT CONCERNED	55.56%	50.00%	54.55%	53.33%	61.76%
	VERY CONCERNED	10.00%	10.00%	7.58%	15.56%	11.76%

Q12 - Do you export?

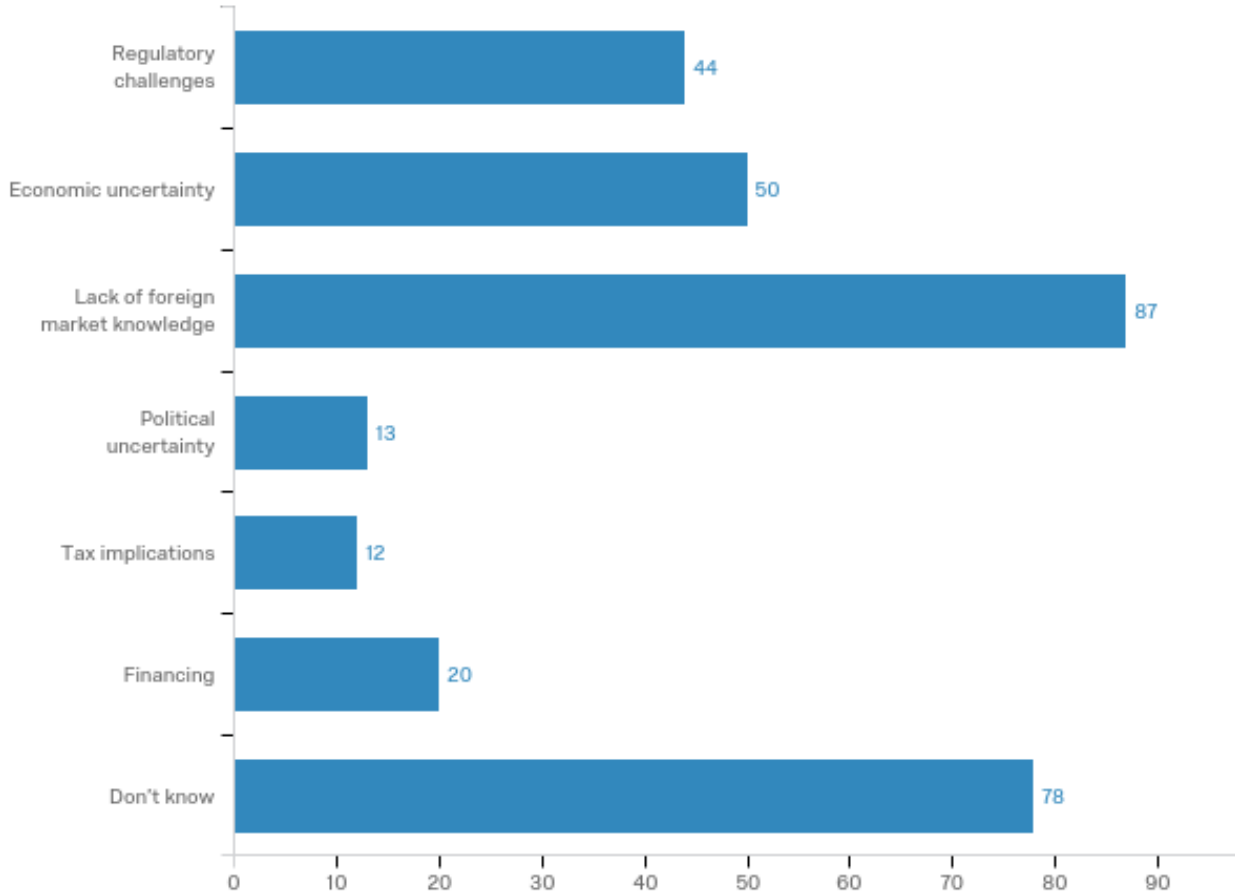


Answer	%	Count
Yes, Internationally	53.72%	166
No	27.18%	84
Yes, only Canada and Mexico	19.09%	59
Total	100%	309

The majority of respondents reported their company exports internationally, while over a quarter do not export. When the results are broken out by number of employees (Q27) as seen in the graph below, smaller companies less frequently reported that they exported.



Q13 - What does your company feel is the biggest deterrent to international expansion?

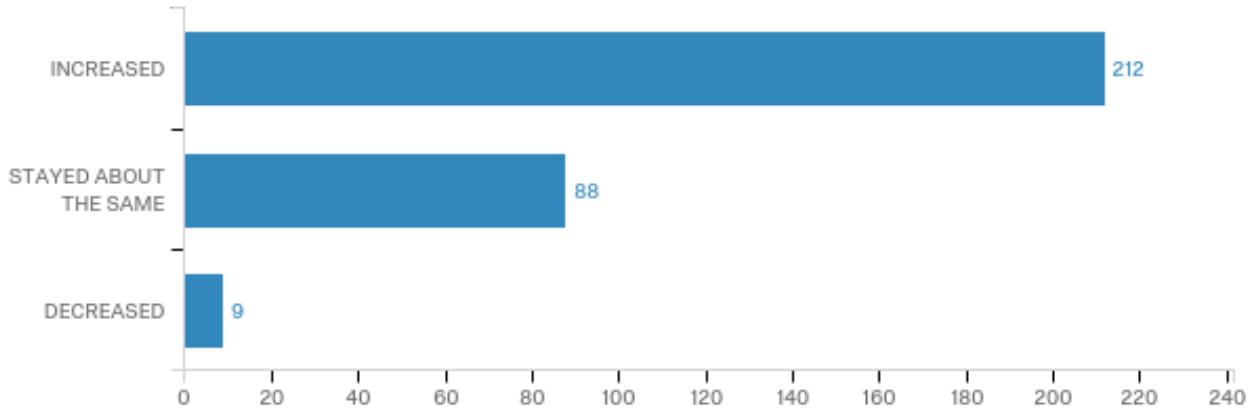


Answer	%	Count
Lack of foreign market knowledge	28.62%	87
Don't know	25.66%	78
Economic uncertainty	16.45%	50
Regulatory challenges	14.47%	44
Financing	6.58%	20
Political uncertainty	4.28%	13
Tax implications	3.95%	12
Total	100%	304

In regards to international expansion, respondents most frequently indicated that their company's biggest deterrent is lack of foreign market knowledge or they don't know respectively. The data is broken out title (Q3) by export status (Q12), company size (Q27) and primary business (Q28) on the next page with the most frequent response for each breakout category highlighted.

		Regulatory challenges	Economic uncertainty	Lack of foreign market knowledge	Political uncertainty	Tax implications	Financing	Don't know
What is your job title?	President	13.83%	17.02%	34.04%	4.26%	3.19%	2.13%	25.53%
	CEO	14.58%	12.50%	33.33%	2.08%	2.08%	18.75%	16.67%
	VP or Equivalent	14.52%	14.52%	29.03%	1.61%	8.06%	6.45%	25.81%
	GM or Equivalent	21.05%	10.53%	36.84%	10.53%	0.00%	0.00%	21.05%
	Other, please specify:	13.58%	20.99%	17.28%	6.17%	3.70%	6.17%	32.10%
Do you export?	No	13.41%	2.44%	25.61%	0.00%	4.88%	9.76%	43.90%
	Yes, only Canada and Mexico	17.54%	12.28%	31.58%	1.75%	1.75%	3.51%	31.58%
	Yes, Internationally	13.94%	24.85%	29.09%	7.27%	4.24%	6.06%	14.55%
How many people does your company employ in all its facilities in Ohio?	UNDER 25	17.78%	11.11%	32.22%	3.33%	1.11%	13.33%	21.11%
	26-50	10.42%	18.75%	27.08%	4.17%	6.25%	2.08%	31.25%
	51-100	13.85%	20.00%	35.38%	3.08%	6.15%	1.54%	20.00%
	101-250	11.11%	26.67%	26.67%	8.89%	2.22%	2.22%	22.22%
	MORE THAN 250	18.75%	15.63%	18.75%	3.13%	3.13%	9.38%	31.25%
Which one of the following best describes your company's primary business?	Precision Manufacturing Process	8.47%	18.64%	30.51%	8.47%	1.69%	1.69%	30.51%
	Process Manufacturing	14.00%	16.00%	36.00%	6.00%	6.00%	2.00%	20.00%
	Original Equipment Manufacturer (OEM)	15.00%	10.00%	37.50%	7.50%	5.00%	7.50%	17.50%
	Plastics	33.33%	13.33%	13.33%	0.00%	0.00%	20.00%	20.00%
	Metal Fabrication	4.88%	29.27%	31.71%	0.00%	7.32%	4.88%	21.95%
	Electronics Components	25.00%	0.00%	25.00%	0.00%	25.00%	25.00%	0.00%
	Information Technology	0.00%	25.00%	50.00%	0.00%	0.00%	0.00%	25.00%
	Other, please specify:	21.43%	15.71%	20.00%	1.43%	2.86%	10.00%	28.57%

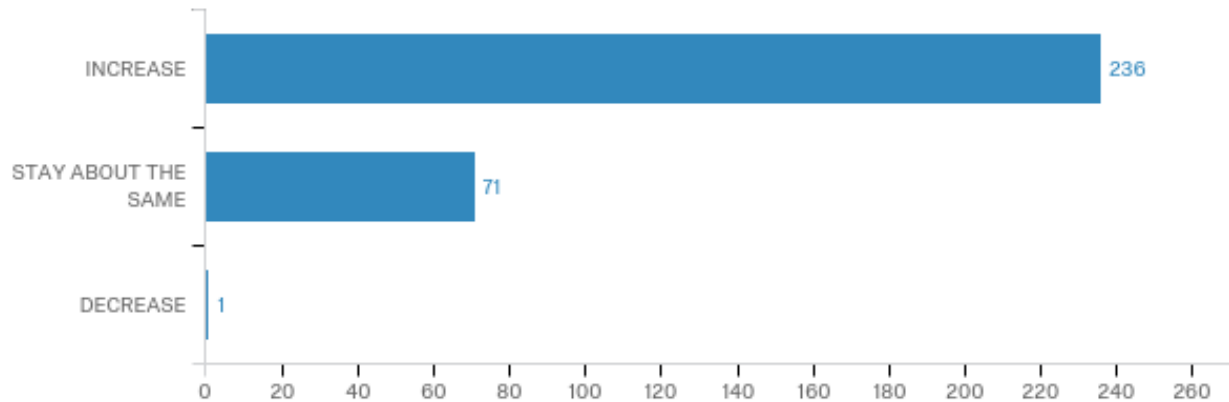
Q14 - Over the last two years, have your firm’s wages (including benefits) increased, decreased, or stayed about the same?



Answer	%	Count
INCREASED	68.61%	212
STAYED ABOUT THE SAME	28.48%	88
DECREASED	2.91%	9
Total	100%	309

Approximately 69% of respondents indicated wages (including benefits) increased at their company.

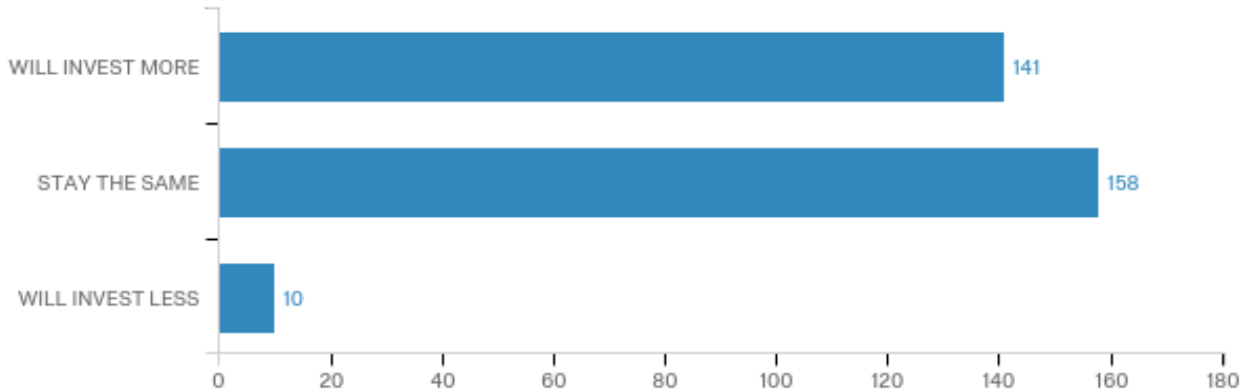
Q15 - Over the next two years, do you expect that average wages (including benefits) will increase, decrease, or stay about the same?



Answer	%	Count
INCREASE	76.62%	236
STAY ABOUT THE SAME	23.05%	71
DECREASE	0.32%	1
Total	100%	308

Over 75% of respondents also indicated their company’s wages will continue to increase over the next two years.

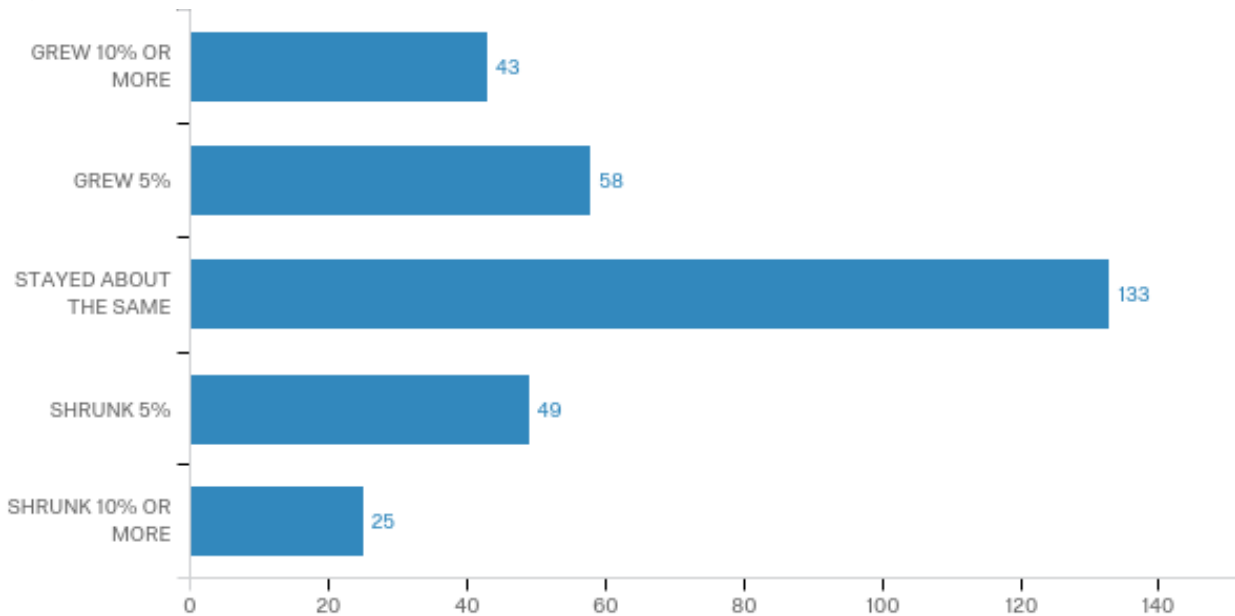
Q16 - Generally speaking, would you say that as a percentage of payroll your company will invest MORE in employee development or LESS next year compared to 2016, or will it stay about the same?



Answer	%	Count
STAY THE SAME	51.13%	158
WILL INVEST MORE	45.63%	141
WILL INVEST LESS	3.24%	10
Total	100%	309

Most respondents reported employee development investment will stay the same or grow respectively.

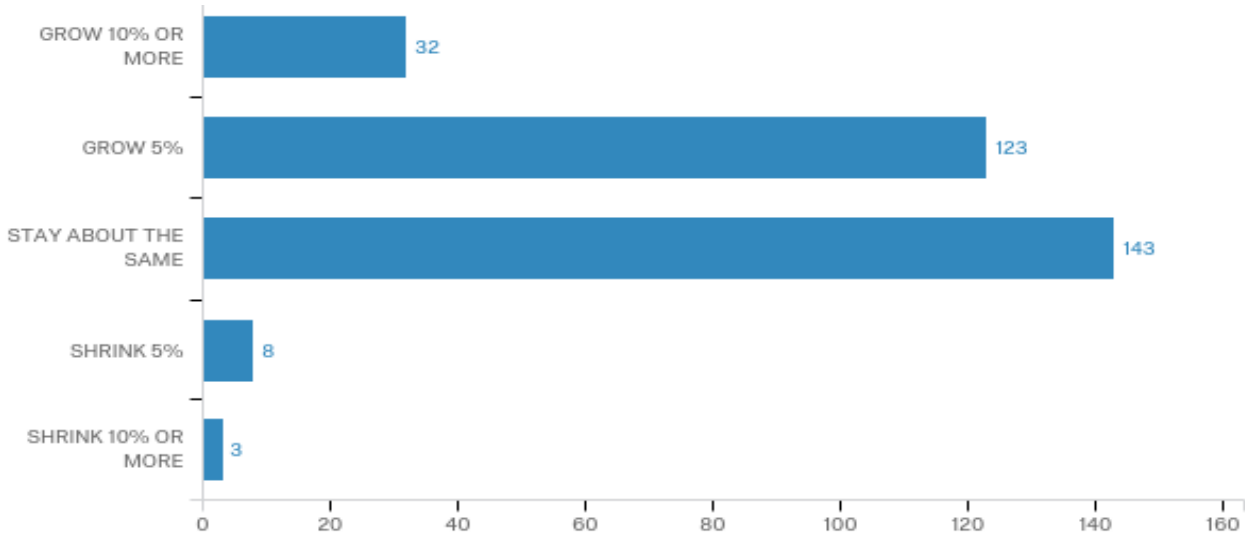
Q17 - Looking back on the last 12 months, did your company’s workforce grow, shrink or stay about the same?



Answer	%	Count
STAYED ABOUT THE SAME	43.18%	133
GREW 5%	18.83%	58
SHRUNK 5%	15.91%	49
GREW 10% OR MORE	13.96%	43
SHRUNK 10% OR MORE	8.12%	25
Total	100%	308

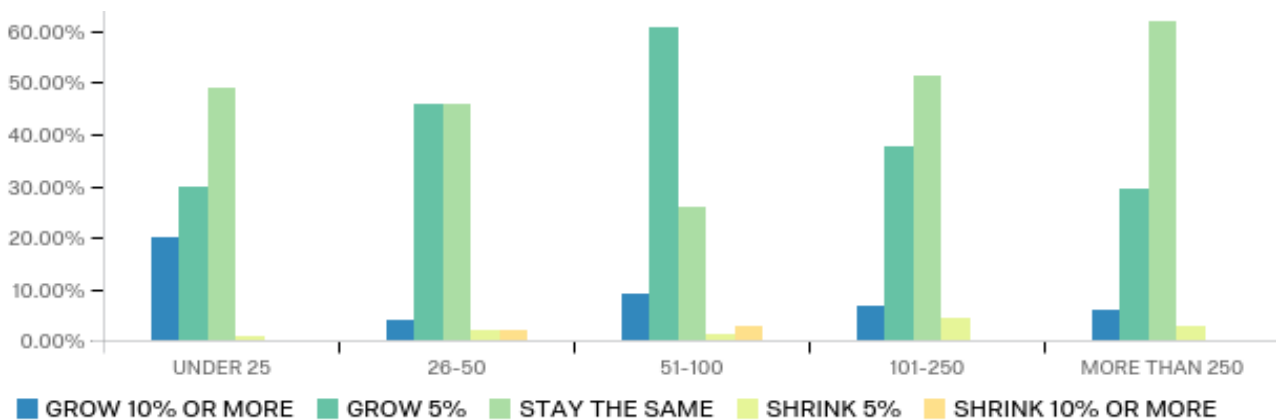
Respondents most frequently reported their company’s workforce stayed about the same size in 2016.

Q18 - In the next 12 months, does your company expect to grow or shrink the size of its workforce, or will it stay about the same?



Answer	%	Count
STAY ABOUT THE SAME	46.28%	143
GROW 5%	39.81%	123
GROW 10% OR MORE	10.36%	32
SHRINK 5%	2.59%	8
SHRINK 10% OR MORE	0.97%	3
Total	100%	309

Respondents most frequently reported that their company’s workforce will stay about the same or grow 5% respectively in 2017. When the results are broken out by number of employees (Q27) as seen in the graph below, respondents of medium size companies more frequently indicated they expect their workforce to grow. When compared to last year (Q17), companies with reported workforce growth indicated continued growth, while the majority of companies with reported workforce shrink indicated the workforce would stay the same.



Q17 - Looking back on the last 12 months, did your company's workforce grow, shrink or stay about the same?

	GREW 10% OR MORE	GREW 5%	STAYED THE SAME	SHRUNK 5%	SHRUNK 10% OR MORE
GROW 10% OR MORE	44.19%	10.34%	4.51%	2.04%	0.00%
GROW 5%	30.23%	58.62%	39.10%	32.65%	32.00%
STAY THE SAME	23.26%	31.03%	54.14%	59.18%	52.00%
SHRINK 5%	2.33%	0.00%	1.50%	6.12%	8.00%
SHRINK 10% OR MORE	0.00%	0.00%	0.75%	0.00%	8.00%

Q19 - Which one of the following reasons comes closest to describing why you believe you firm’s workforce size will stay about the same in the next 12 months

Answer	%	Count
Your firm has become more efficient and automated, so additional workers aren’t necessary	30.28%	43
Profit margins are down and you are trying to do more without hiring additional workers	23.24%	33
You are concerned about economic conditions and how they might impact your firm	16.20%	23
You are not expecting additional business in the coming year	11.97%	17
Your firm is having trouble recruiting and attracting workers	11.97%	17
Other, please specify:	6.34%	9
Total	100%	142

The majority of respondents who reported their company’s workforce would not grow in 2017 indicated that efficiencies (i.e. automation) or lean profit margins as the driving reason respectively. Other (please specify) responses are included below.

Other, please specify:

Combination of low business demand, general business uncertainty and finding interested shop floor employees.

Depends on if sales increase

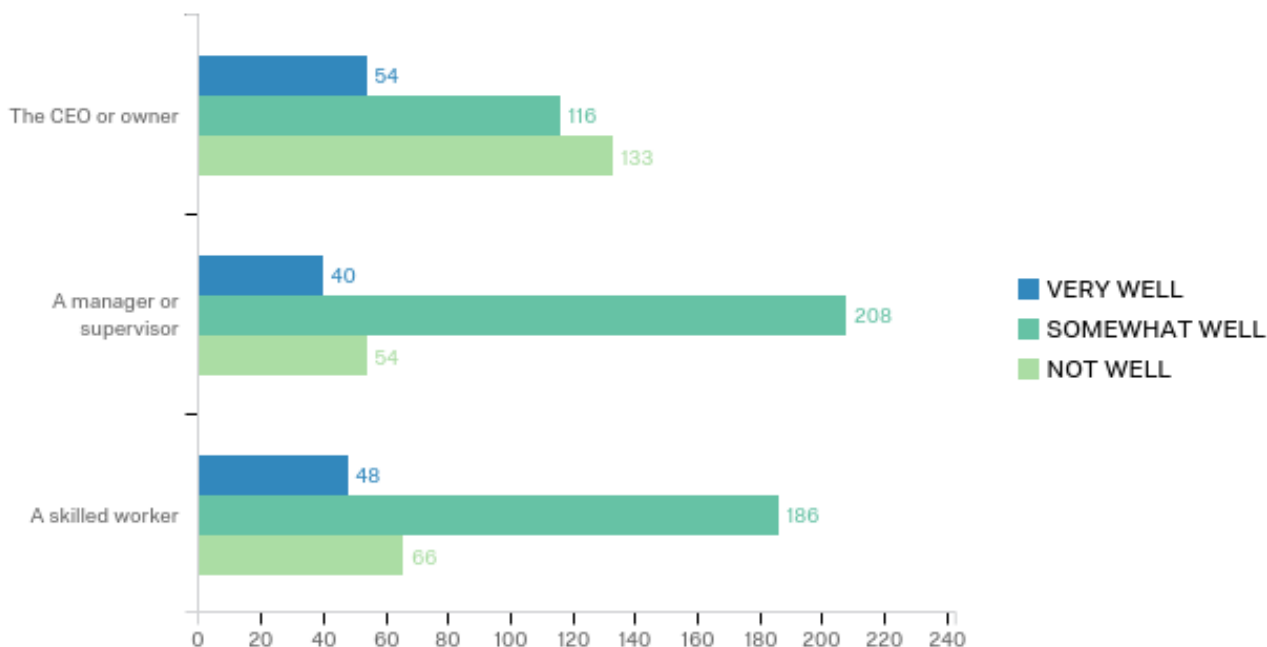
Inefficient immigration policy limits our ability to recruit and hire highly skilled technical workers needed for aerospace R&D work, so work will be done in France instead.

Pre-revenue (2)

We hired this year preparing for the future.

We realigned staffing in 2016 to accommodate more growth in sales/production

Q20 - How well do you feel your firm is prepared to handle the departure of someone in the following roles?

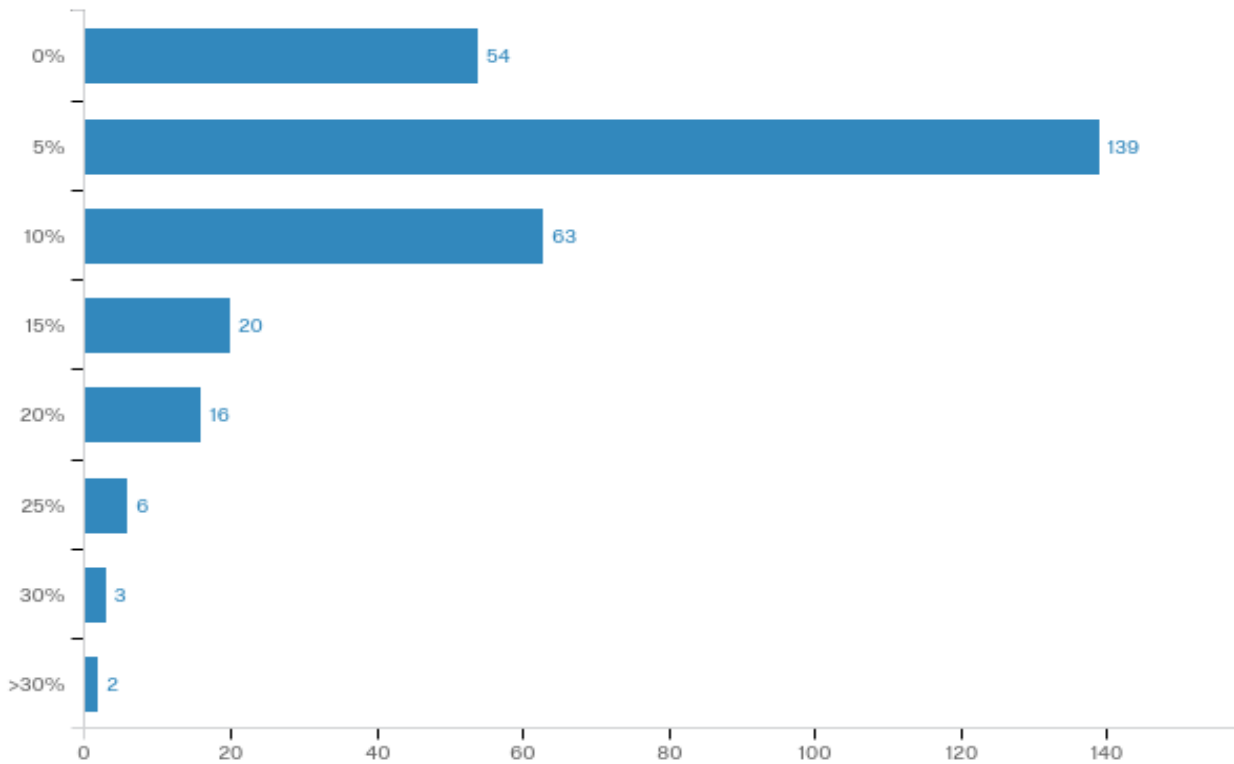


Question	VERY WELL	SOMEWHAT WELL	NOT WELL	Total
The CEO or owner	17.82%	38.28%	43.89%	303
A manager or supervisor	13.25%	68.87%	17.88%	302
A skilled worker	16.00%	62.00%	22.00%	300

The majority of respondents indicated their company is somewhat well prepared to handle the departure of a skilled worker or manager, but not a CEO or owner. When broken out by number of employees (Q27) as shown in the table below, smaller companies are less prepared than larger companies. The most frequent response for each employee size category is bolded.

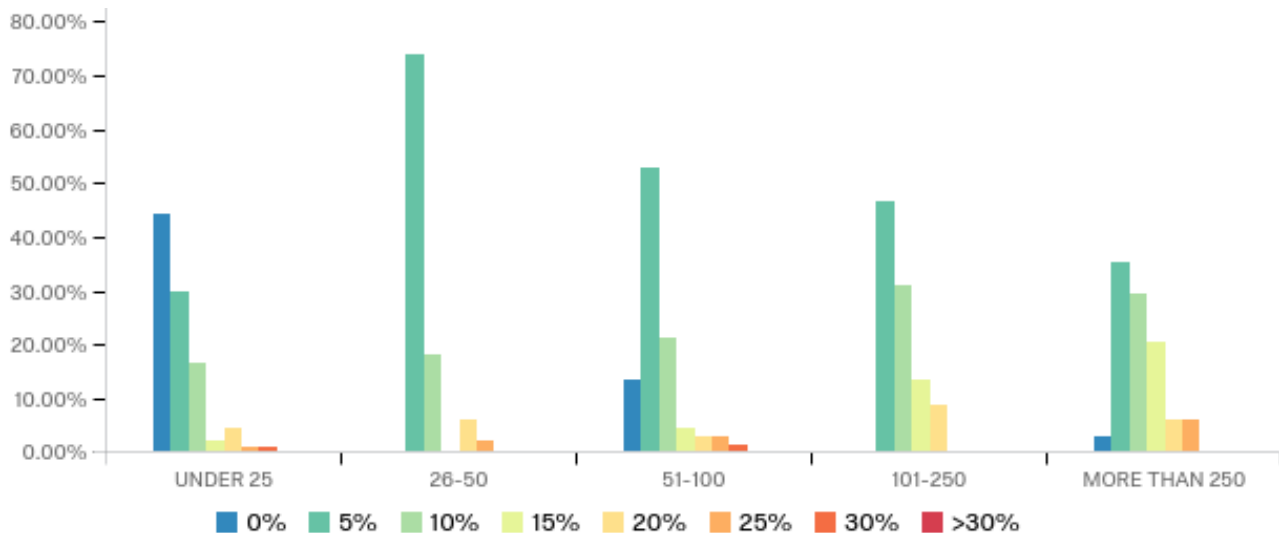
		UNDER 25	26-50	51-100	101-250	MORE THAN 250
The CEO or owner	VERY WELL	11.11%	22.00%	18.18%	20.00%	23.53%
	SOMEWHAT WELL	25.56%	42.00%	48.48%	40.00%	52.94%
	NOT WELL	63.33%	36.00%	33.33%	40.00%	23.53%
A manager or supervisor	VERY WELL	6.74%	8.00%	18.18%	13.33%	26.47%
	SOMEWHAT WELL	58.43%	80.00%	72.73%	77.78%	61.76%
	NOT WELL	34.83%	12.00%	9.09%	8.89%	11.76%
A skilled worker	VERY WELL	11.36%	22.00%	21.21%	11.11%	14.71%
	SOMEWHAT WELL	57.95%	58.00%	57.58%	73.33%	70.59%
	NOT WELL	30.68%	20.00%	21.21%	15.56%	14.71%

Q21 - Annually, _____ percent of my employees are replaced (quit + let go+ retire):

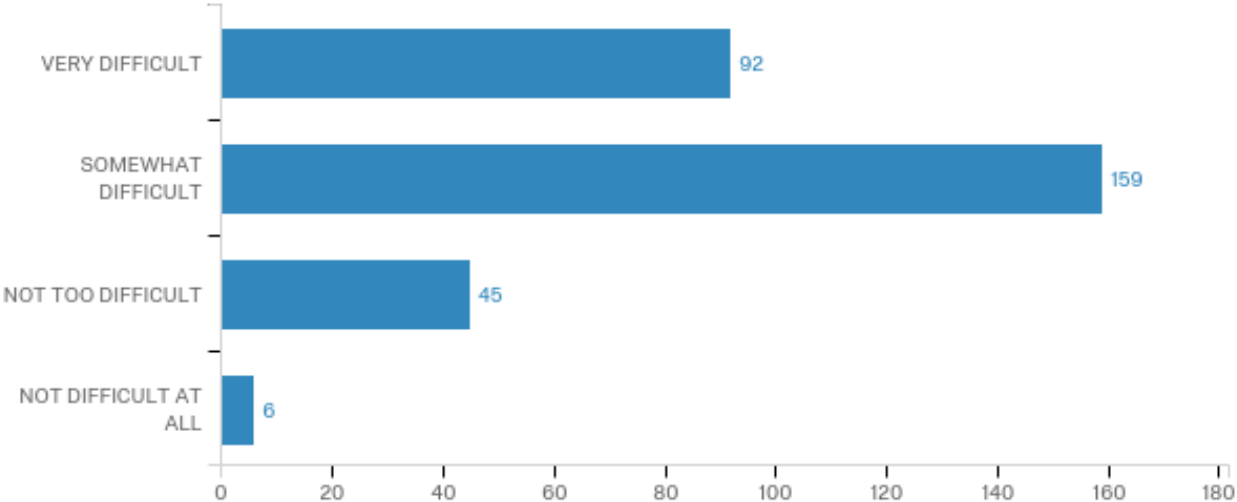


Answer	%	Count
5%	45.87%	139
10%	20.79%	63
0%	17.82%	54
15%	6.60%	20
20%	5.28%	16
25%	1.98%	6
30%	0.99%	3
>30%	0.66%	2
Total	100%	303

Respondents most frequently indicated that their companies replaces 5% of their workforce due to turnover. When broken out by number of employees (Q27), companies under 25 reported less turnover, while larger companies reported higher turnover.



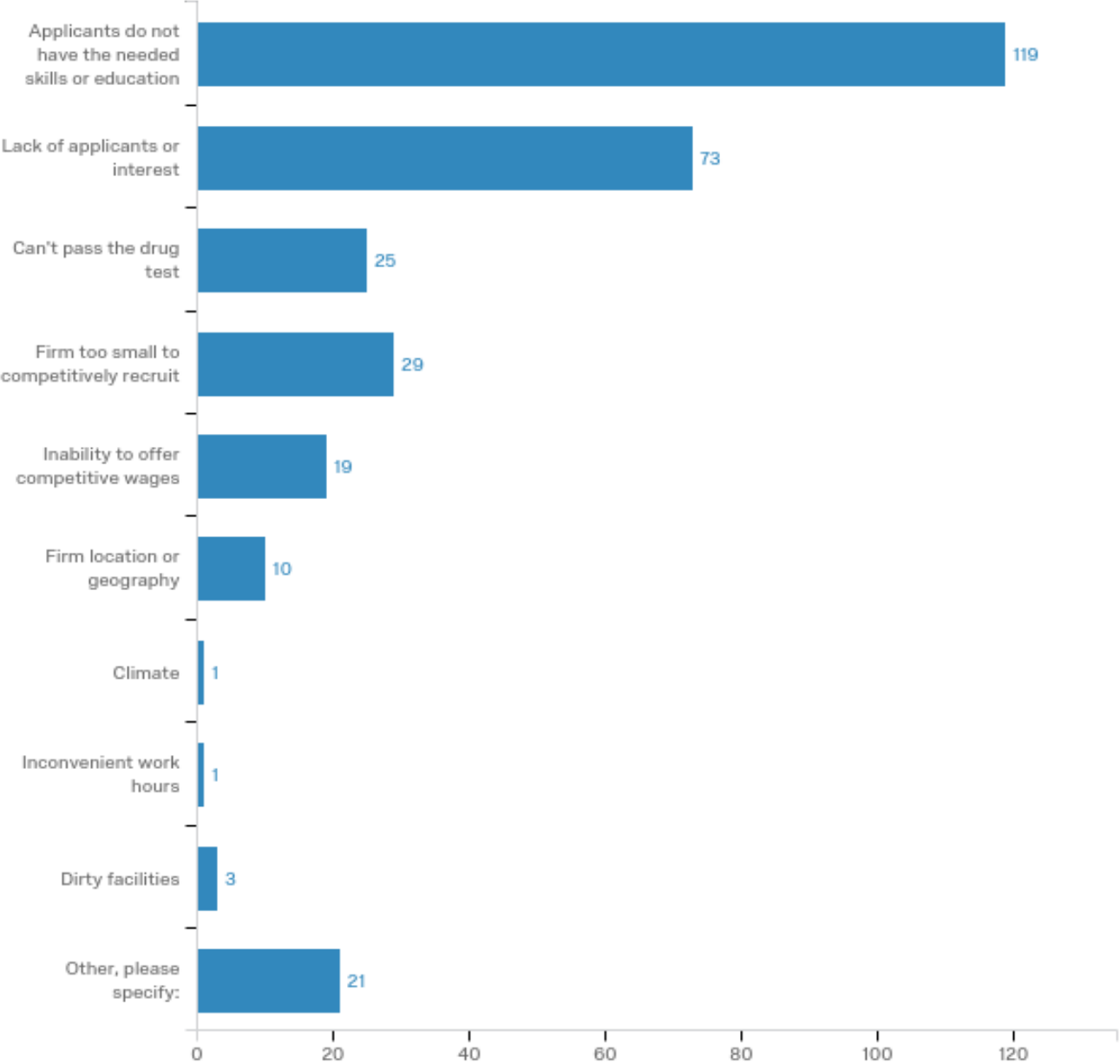
Q22 - How difficult is it to attract qualified candidates for your firm’s vacancies?



Answer	%	Count
SOMEWHAT DIFFICULT	52.65%	159
VERY DIFFICULT	30.46%	92
NOT TOO DIFFICULT	14.90%	45
NOT DIFFICULT AT ALL	1.99%	6
Total	100%	302

Over 80% of respondents indicated it is somewhat or very difficult to attract qualified candidates.

Q23 - What would you say is the biggest challenge your firm faces in hiring qualified candidates?



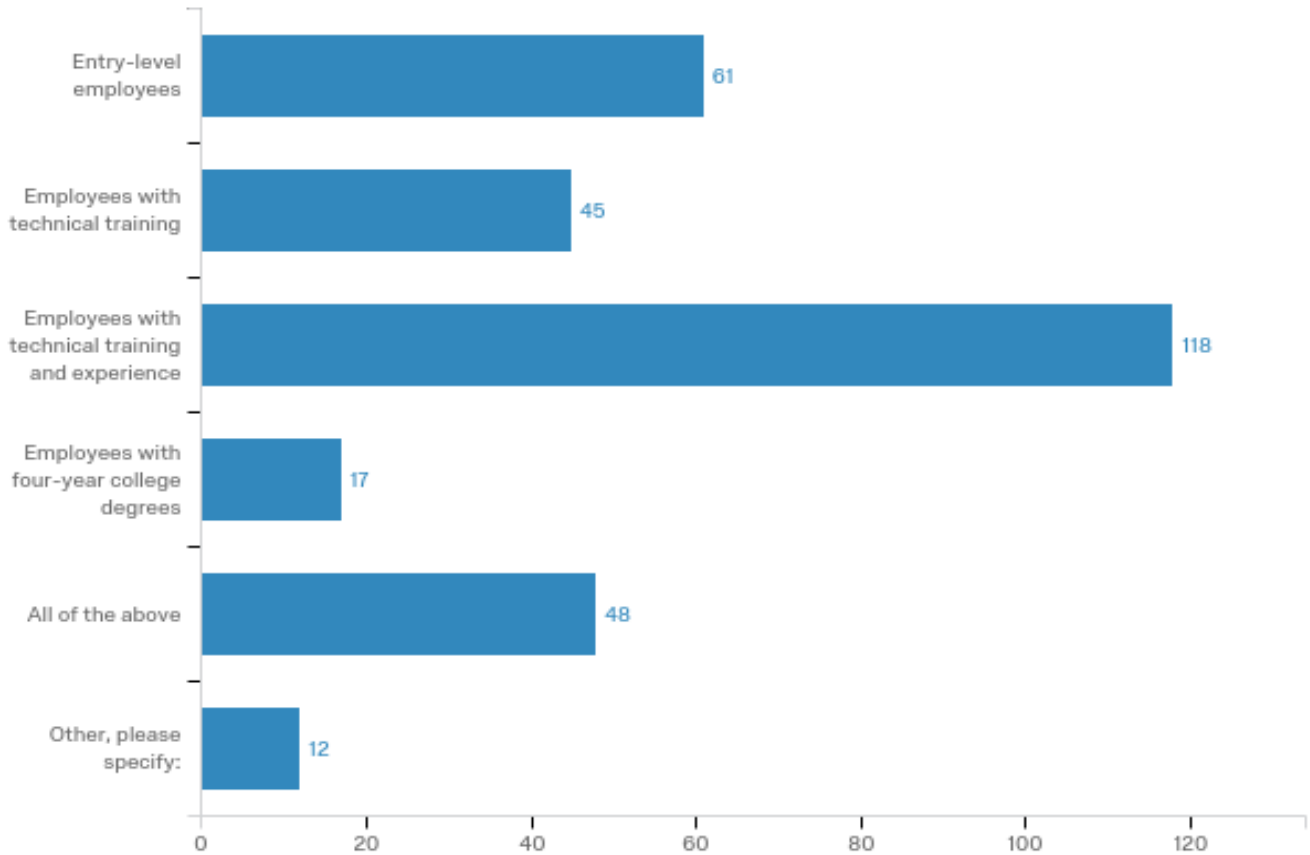
Answer	%	Count
Applicants do not have the needed skills or education	39.53%	119
Lack of applicants or interest	24.25%	73
Firm too small to competitively recruit	9.63%	29
Can't pass the drug test	8.31%	25
Other, please specify:	6.98%	21
Inability to offer competitive wages	6.31%	19
Firm location or geography	3.32%	10
Dirty facilities	1.00%	3
Climate	0.33%	1
Inconvenient work hours	0.33%	1
Total	100%	301

Respondents most frequently indicated unqualified applicants or lack of applicants are the biggest hiring challenge. Other (please specify) responses are included below.

Other, please specify:

"hard to hire, fast to fir" method... our process is long. As a young company, time of core team is always a risk for this process.
candidates with basic life/work skills
capital
Combination of poor work ethics/work background, qualifications for the skilled positions, and lack of interest.
Direct Sales Training with Passion
Entry level workforce is very transient and willing to jump at next opportunity, therefore hard to keep a new employee.
Funding to expand
have no idea
Immigration policies created huge barriers to retaining or hiring new highly skilled technical workers for aerospace R&D.
In the area of factory technicians - lack of interest, and tardiness/absenteeism.
Lack of desire to work.
Lack of funds
Managing cash flows of sales and how increasing staff is measured to those cash flows, purchases peaks and valleys.
most of the above, transportation, skillset, wages, desire to work, rational expectations by candidates (youth), commitment
Most of these apply!!
Our company culture (more startup oriented) is a bit of a shift for those coming from large corporate jobs
Our hiring process is very cumbersome, our hiring process is not is very late for the school year
Pass minimum education requirements
Quantity of work available necessary to attract the best union employees.
Working within the prison system

Q24 - When looking to hire new employees, where is your need greatest?



Answer	%	Count
Employees with technical training and experience	39.20%	118
Entry-level employees	20.27%	61
All of the above	15.95%	48
Employees with technical training	14.95%	45
Employees with four-year college degrees	5.65%	17
Other, please specify:	3.99%	12
Total	100%	301

Respondents most frequently reported their greatest hiring need is employees with technical training and experience. Other (please specify) responses are included below.

Other, please specify:

Employees that know how to communicate with people.

Employees who are knowledgeable, professional, can travel for weeks to months at a time, and can take a low salary.

Employees with deep experience in the field of our business

Industry interest and perception

licensed operators and skilled trades

Sales people that can communicate in direct sales operations

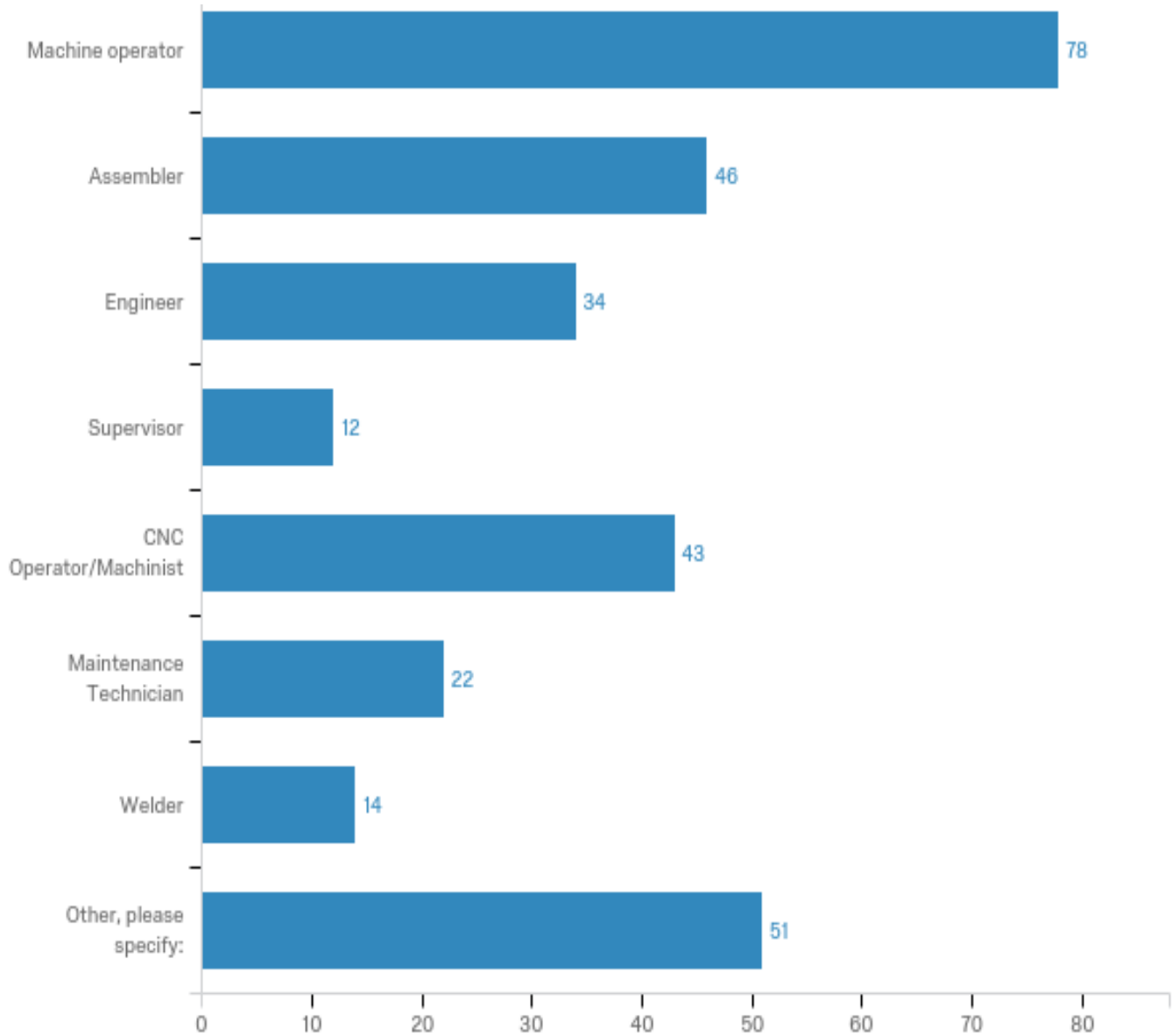
skilled labor

Skilled machinists

specialty licenses and being a poverty district teachers who will apply

Until recently the greatest need was entry-level. We've raised our wages to the point where this is no longer the greatest need. Currently, the greatest need is skilled, experienced maintenance people.

Q25 - What types of manufacturing jobs or positions are in most demand at your company?



Answer	%	Count
Machine operator	26.00%	78
Other, please specify:	17.00%	51
Assembler	15.33%	46
CNC Operator/Machinist	14.33%	43
Engineer	11.33%	34
Maintenance Technician	7.33%	22
Welder	4.67%	14
Supervisor	4.00%	12
Total	100%	300

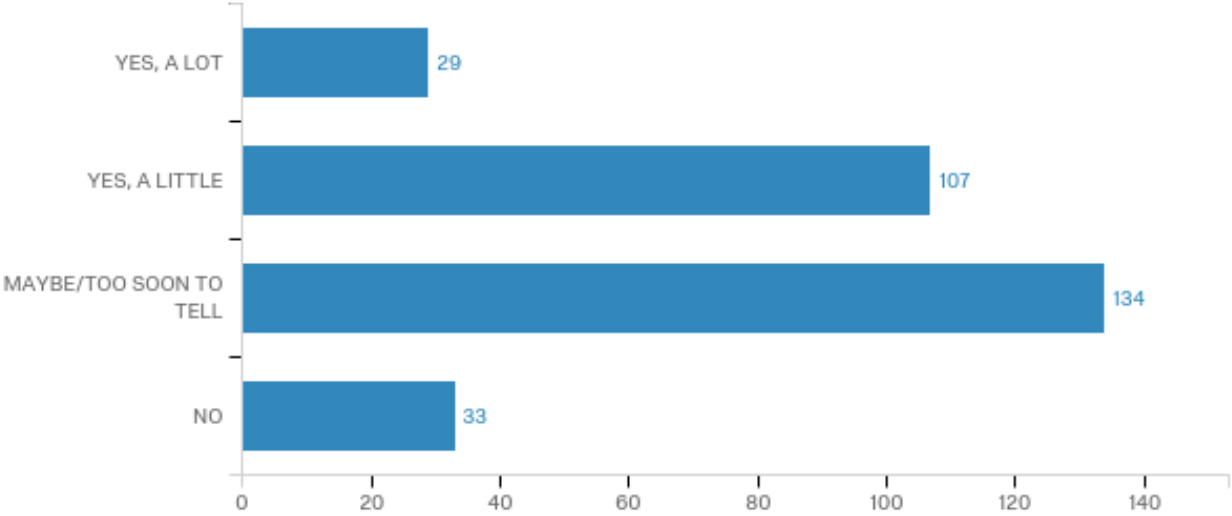
Respondents reported that a wide array of jobs are in demand with machine operators the leading need. The data is broken out by primary business (Q28) with the top two positions for each primary business bolded on the next page. Other (please specify) responses are also included.

	Precision Manufacturing Process	Process Manufacturing	Original Equipment Manufacturer (OEM)	Metal Fabrication	Electronics Components	Plastics	Information Technology	Other, please specify:
Machine operator	28.81%	36.54%	4.88%	33.33%	0.00%	43.75%	0.00%	20.29%
Assembler	8.47%	21.15%	34.15%	9.52%	50.00%	12.50%	0.00%	10.14%
Engineer	6.78%	9.62%	21.95%	0.00%	25.00%	6.25%	0.00%	15.94%
Supervisor	3.39%	1.92%	4.88%	4.76%	0.00%	6.25%	66.67%	2.90%
CNC Operator/Machinist	40.68%	1.92%	9.76%	19.05%	0.00%	0.00%	0.00%	4.35%
Maintenance Technician	1.69%	11.54%	4.88%	9.52%	0.00%	12.50%	0.00%	8.70%
Welder	0.00%	1.92%	12.20%	14.29%	0.00%	0.00%	0.00%	1.45%
Other, please specify:	10.17%	15.38%	7.32%	9.52%	25.00%	18.75%	33.33%	36.23%
<i>Responses</i>	59	52	41	42	4	16	3	69

Other, please specify:

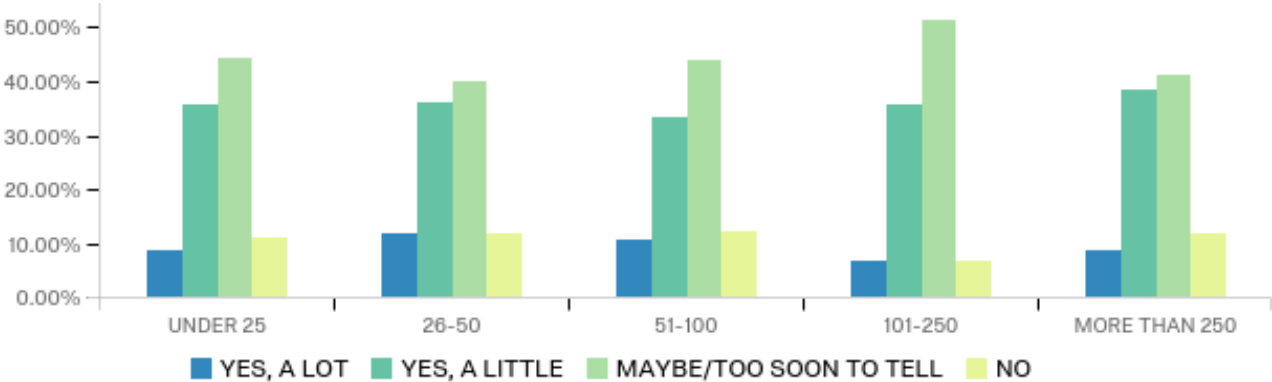
All of the above except Assembler
All of the above.
Associate
boiler operators
Brewing/Distillation
Business analyst
Can vary from location to location
chemical operator (2)
Chemist (3)
CNC Machinist
CNC Programmer, Set-Up and Operate
coating technician
Company is bringing its products that it sells back to USA for Made in America label for export and providing to US Government
Display / exhibit carpenter
Employees who are knowledgeable, professional, can travel for weeks to months at a time, and can take a low salary.
entree level labor
Establishing Manufacture ring and Assembly facilities for Made in America label.
Fitters
Food Operations
Inspection and quality control
Journeyman Ironworker
Laborer
Machine Setup
machinist and welder/fabricators
metal finisher
MILL OPERATOR
Not yet manufacturing
Operators
PEOPLE THAT UNDERSTAND THE TECHNICAL VOCABULARY
product handling
Production Painter
PROJECT MANAGER
Quality/Inspection
sales
sales and forklift/tow motor drivers
steel slitter operators
Tool and Die Maker (3)
We are a contract manufacturer, so the majority of manufacturing is done outside of our location.
WE ARE NEED OF QUALIFIED AND EXPERIENCED MACHINISTS.
Welders, Skilled Machinists, Maintenance Machining techs CDL Drivers

Q26 - Will the shortage of qualified workers affect your company's bottom line and ability to meet your growth plan in the coming year?

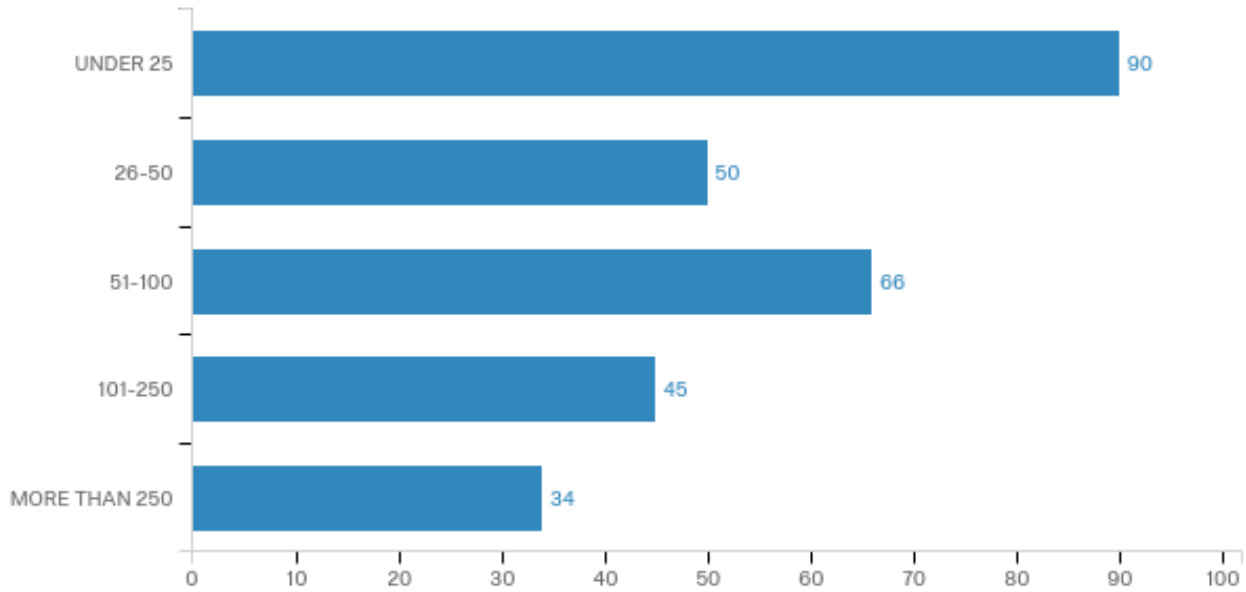


Answer	%	Count
MAYBE/TOO SOON TO TELL	44.22%	134
YES, A LITTLE	35.31%	107
NO	10.89%	33
YES, A LOT	9.57%	29
Total	100%	303

While respondent most frequently indicated it is too soon to tell if a shortage of workers will affect the bottom line, over a third indicated a shortage of workers would affect the bottom line. When the results are broken out by number of employees (Q27) as seen in the graph below, the pattern is similar across company size.



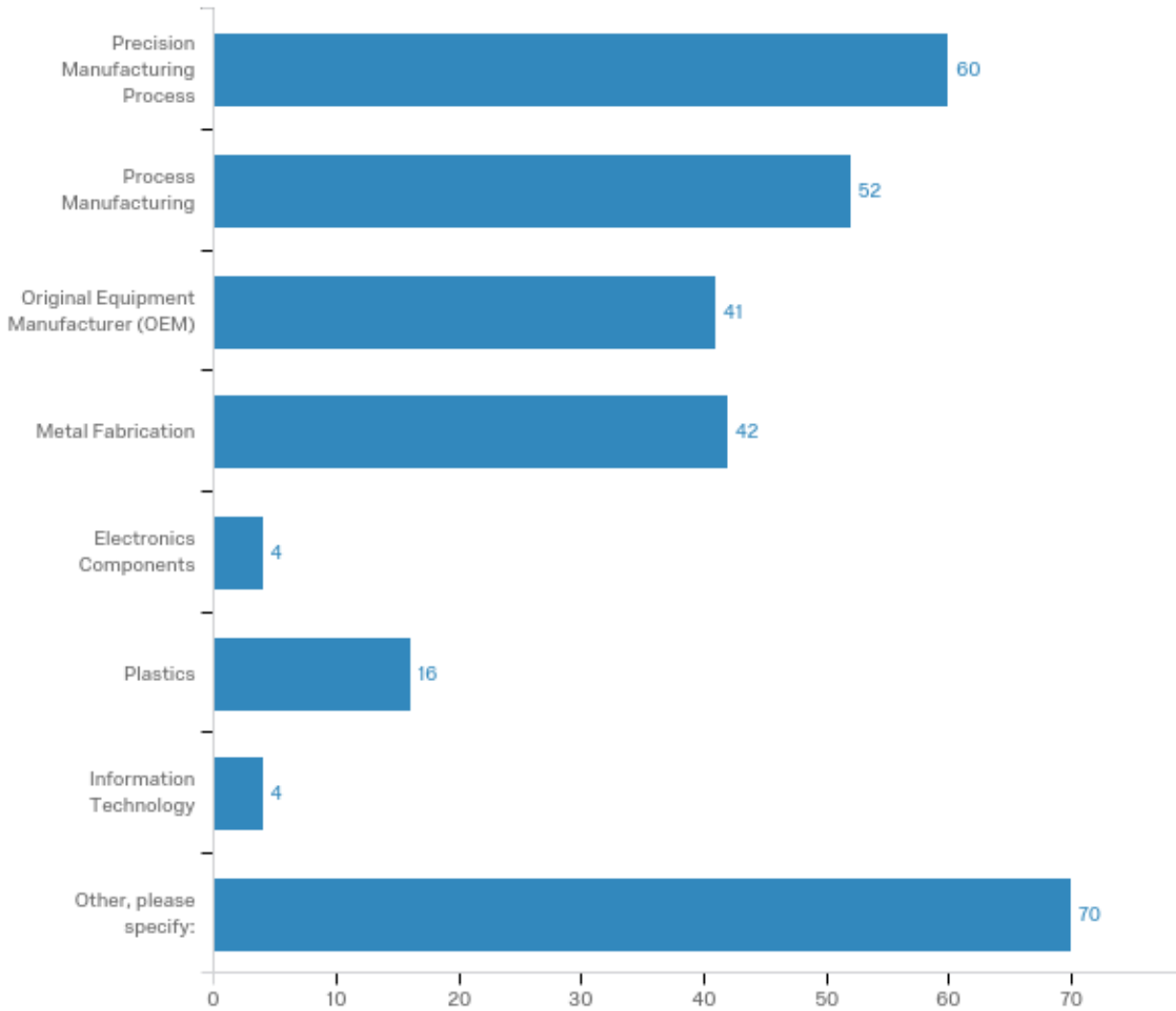
Q27 - How many people does your company employ in all its facilities in Ohio?



Answer	%	Count
UNDER 25	31.58%	90
51-100	23.16%	66
26-50	17.54%	50
101-250	15.79%	45
MORE THAN 250	11.93%	34
Total	100%	285

As seen above, the respondents represent companies of all sizes with under 25 employees most frequently reported.

Q28 - Which one of the following best describes your company's primary business?



Answer	%	Count
Other, please specify:	24.22%	70
Precision Manufacturing Process	20.76%	60
Process Manufacturing	17.99%	52
Metal Fabrication	14.53%	42
Original Equipment Manufacturer (OEM)	14.19%	41
Plastics	5.54%	16
Electronics Components	1.38%	4
Information Technology	1.38%	4
Total	100%	289

Respondent manufacturers represent a wide range of products and industries as reported above. Other (please specify) responses are included below.

Other, please specify:

Actuators

Adhesives

Aerospace

Apparel Manufacturer

Assembly and distribution

Assembly as we do not have the funds to do the manufacturing of the product yet.

Beverage

Calibration, Repair

Chemical & coatings manufacturer

Chemical Manufacture

Coatings Application

Commercial Testing

DEMOUNTABLE OFFICE PARTIONS

Dental/medical devices

Displays, trade shows, space design and fabrication

Electric products

Electrical

engineering service

equipment supplier

Food manufacturer

Food Manufacturing

Food Processing

Heat treatment service provider

hydraulic equipment

Industrial Biotechnology

Industrial Process Control Systems and Sensors and Software

Integrator

Machine Shop

manufacture, import, distribution

Manufacturing / distribution

Manufacturing design (medical)

marking products

materials

Metal Fab & Assembly (2 different business units)

metal finisher and assembler

metal stamping manufacturer

OEM support

Plastics extrusion mfg.

Printing

public utility, steam generation

Raw materials, master batches

repair of turbine engine components, variety of processes including machining, welding, NDT, thermal spray, heat treat, and more

RUBBER

RUBBER

Rubber

rubber bands

Rubber molding

Rubber Products Mfg.

Scrap metal processing

Service oriented

Steel Erection & Industrial Plant Maintenance

Steel Manufacturer

steel service center

Steel Supplier

Steel Supplier

Substation equipment services

Tool manufacturing

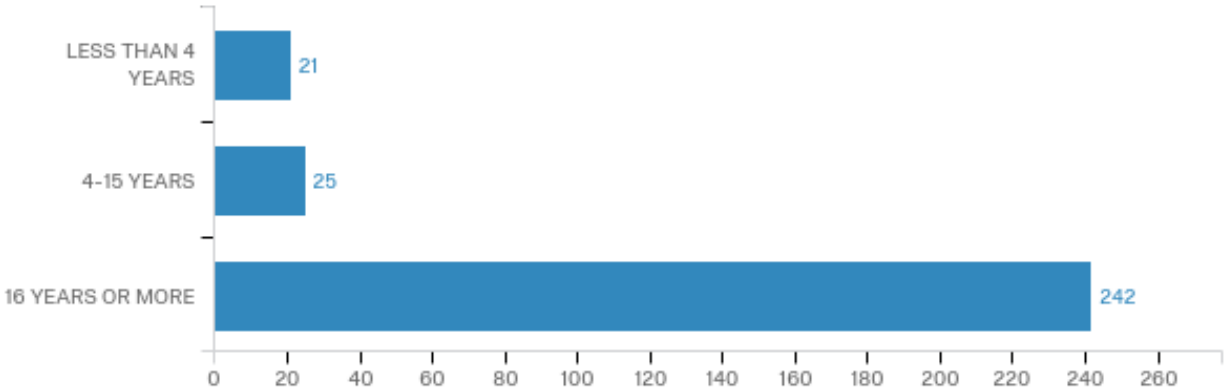
transportation

Wax paper manufacturer

We have physical products we assemble, paired with IT services on deploy.

WOODWORK MANF.

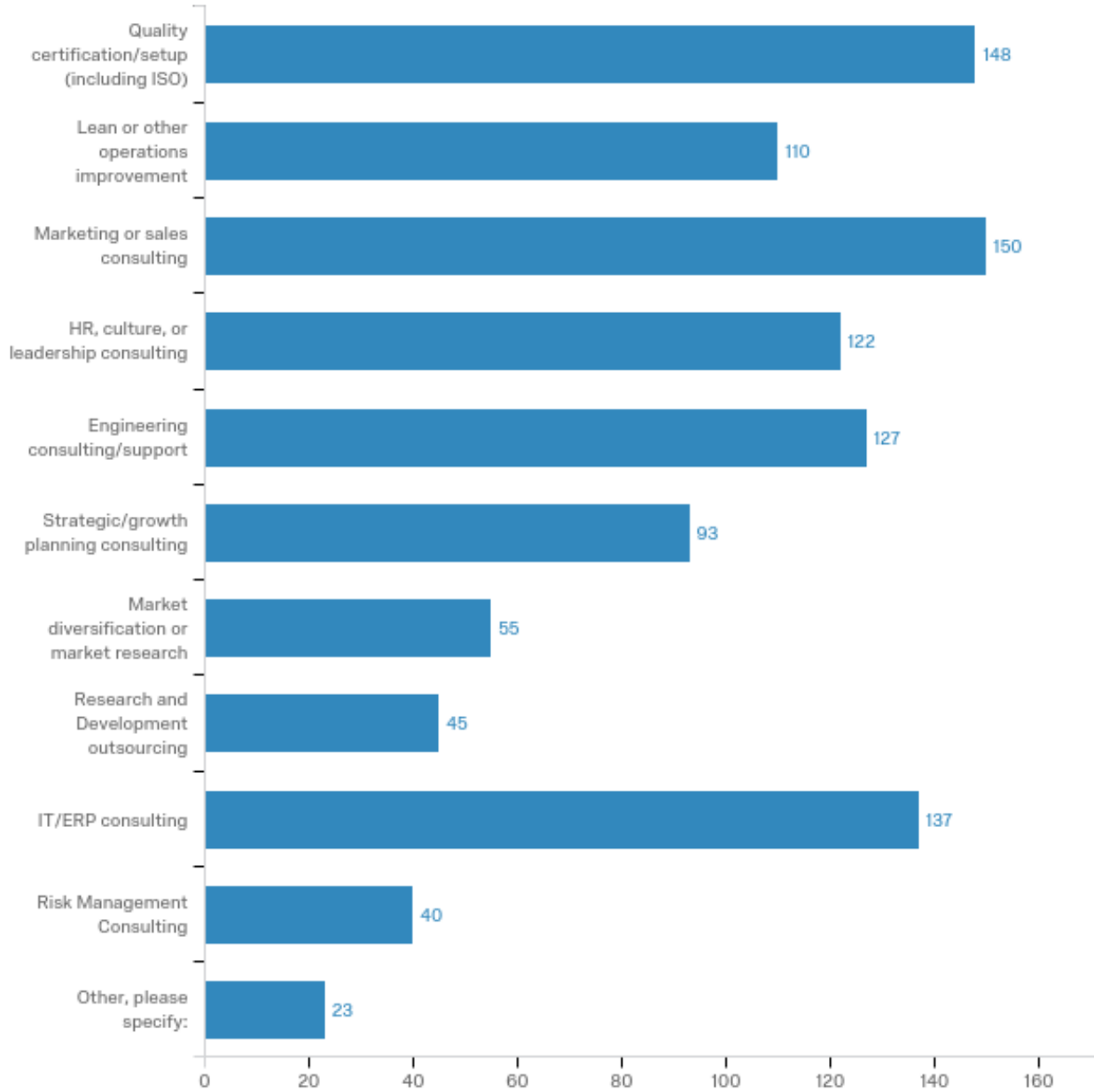
Q29 - How many years has your firm been in operation?



Answer	%	Count
16 YEARS OR MORE	84.03%	242
4-15 YEARS	8.68%	25
LESS THAN 4 YEARS	7.29%	21
Total	100%	288

Most respondents reported being in business more than 16 years.

Q30 - Which of the following consulting services has my company ever used:



Answer	%	Count
Marketing or sales consulting	53.57%	150
Quality certification/setup (including ISO)	52.86%	148
IT/ERP consulting	48.93%	137
Engineering consulting/support	45.36%	127
HR, culture, or leadership consulting	43.57%	122
Lean or other operations improvement	39.29%	110
Strategic/growth planning consulting	33.21%	93
Market diversification or market research	19.64%	55
Research and Development outsourcing	16.07%	45
Risk Management Consulting	14.29%	40
Other, please specify:	8.21%	23
Total	100%	280

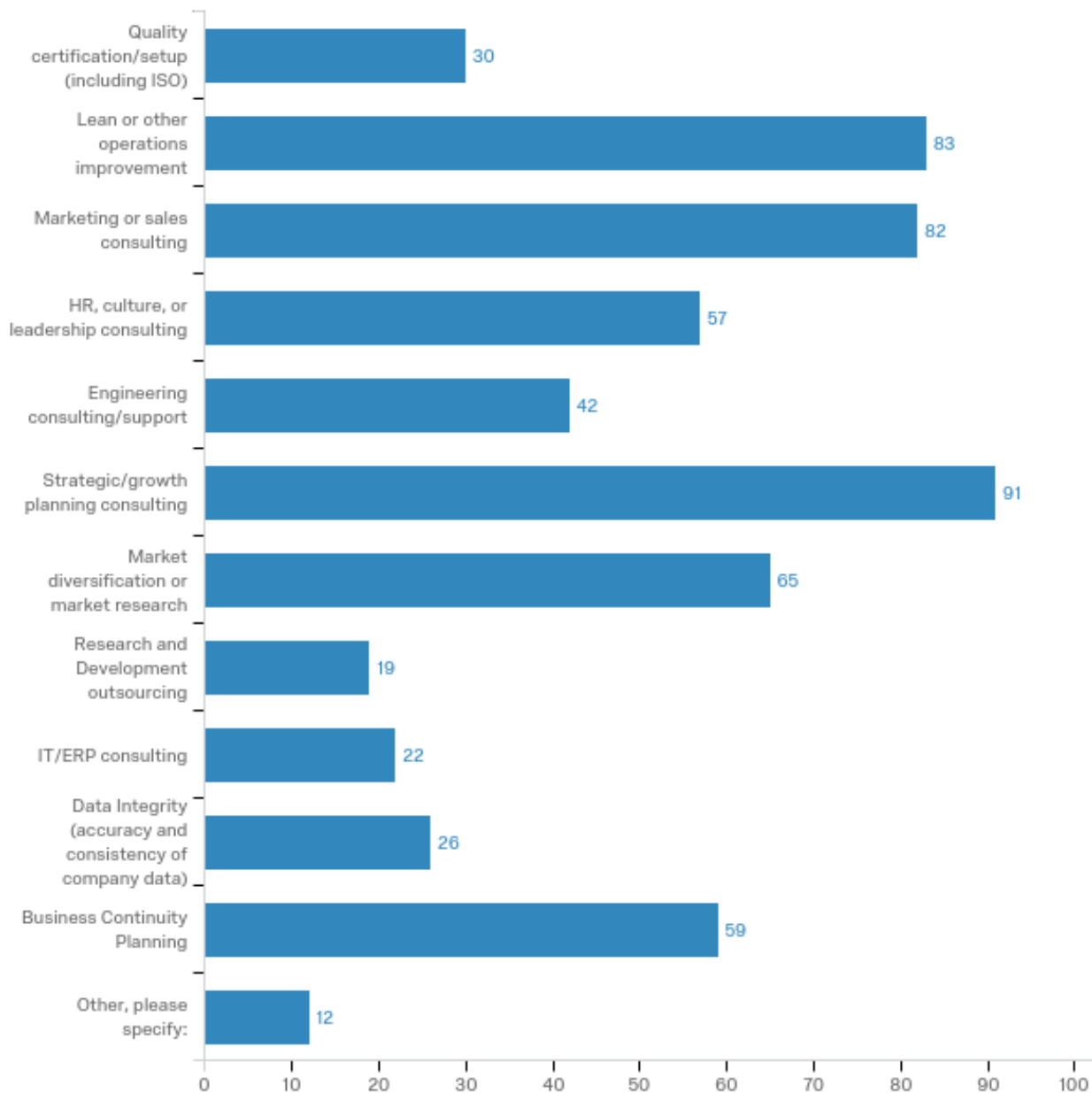
The majority of respondents indicated they have used marketing/sales or quality consultants. Approximately 70% reported using between one and five consulting services, 25% six or more and 5% no consulting services. The data is broken out by company size (with top two answers bolded) and other responses are included on the next page.

	UNDER 25	26-50	51-100	101-250	MORE THAN 250
Quality certification/setup (including ISO)	25.88%	56.25%	68.18%	71.11%	63.64%
Lean or other operations improvement	14.12%	41.67%	50.00%	51.11%	60.61%
Marketing or sales consulting	56.47%	47.92%	56.06%	62.22%	42.42%
HR, culture, or leadership consulting	25.88%	35.42%	51.52%	66.67%	54.55%
Engineering consulting/support	42.35%	39.58%	40.91%	60.00%	51.52%
Strategic/growth planning consulting	28.24%	20.83%	45.45%	37.78%	36.36%
Market diversification or market research	14.12%	20.83%	19.70%	26.67%	24.24%
Research and Development outsourcing	11.76%	16.67%	10.61%	20.00%	33.33%
IT/ERP consulting	25.88%	52.08%	59.09%	77.78%	48.48%
Risk Management Consulting	9.41%	16.67%	10.61%	22.22%	21.21%
Other, please specify:	10.59%	2.08%	4.55%	13.33%	9.09%

Other, please specify:

Environmental
Environmental
FDA regulatory
finance
Health & Safety
health, safety, environmental
Internal Training
investment banking
Logistics
n/a
None
None
none of above
None, my firm is a management Consulting firm
Not at all
Product development
Regulatory Compliance
safety
Safety
Safety Assessment consulting.
SCORE
Tax and Accounting
We help Manufacturing co's with all the above minus the IT

Q31 - Which of the topics below would your company benefit most from learning more about or getting best practices in?



Answer	%	Count
Strategic/growth planning consulting	34.60%	91
Lean or other operations improvement	31.56%	83
Marketing or sales consulting	31.18%	82
Market diversification or market research	24.71%	65
Business Continuity Planning	22.43%	59
HR, culture, or leadership consulting	21.67%	57
Engineering consulting/support	15.97%	42
Quality certification/setup (including ISO)	11.41%	30
Data Integrity (accuracy and consistency of company data)	9.89%	26
IT/ERP consulting	8.37%	22
Research and Development outsourcing	7.22%	19
Other, please specify:	4.56%	12
Total	100%	263

Respondents most frequently indicated their company would benefit from strategic planning, process improvement and marketing/sales consulting respectively. The data is broken out by company size (with top answer bolded) and other responses are included below

	UNDER 25	26-50	51-100	101-250	MORE THAN 250
Strategic/growth planning consulting	34.94%	40.91%	34.92%	40.00%	20.00%
Lean or other operations improvement	19.28%	27.27%	39.68%	52.50%	26.67%
Marketing or sales consulting	48.19%	29.55%	28.57%	20.00%	10.00%
Market diversification or market research	25.30%	38.64%	20.63%	25.00%	13.33%
HR, culture, or leadership consulting	15.66%	22.73%	25.40%	30.00%	20.00%
Business Continuity Planning	30.12%	27.27%	14.29%	10.00%	23.33%
Engineering consulting/support	22.89%	13.64%	7.94%	17.50%	16.67%
Quality certification/setup (including ISO)	14.46%	9.09%	9.52%	15.00%	6.67%
Data Integrity (accuracy and consistency of company data)	4.82%	6.82%	11.11%	17.50%	16.67%
IT/ERP consulting	4.82%	2.27%	17.46%	7.50%	10.00%
Research and Development outsourcing	13.25%	6.82%	1.59%	7.50%	3.33%
Other, please specify:	4.82%	0.00%	4.76%	5.00%	10.00%

Other, please specify:

Already have in place

culture of no consultants

customer service

Environmental

FDA regulatory

Raising Capital/Funding

Safety

Safety, health and environment

talent management

Unsure, when we know, we usually go out and find someone to help.

WE ARE UP TO DATE ON ALL