

2017 State of the Gear Industry

Reader Survey Results

Gear Technology's annual State of the Gear Industry survey polls gear manufacturers about the latest trends and opinions relating to the overall health of the gear industry.

As in years past, the survey was conducted anonymously, with invitations sent by e-mail to gear manufacturing companies around the world.

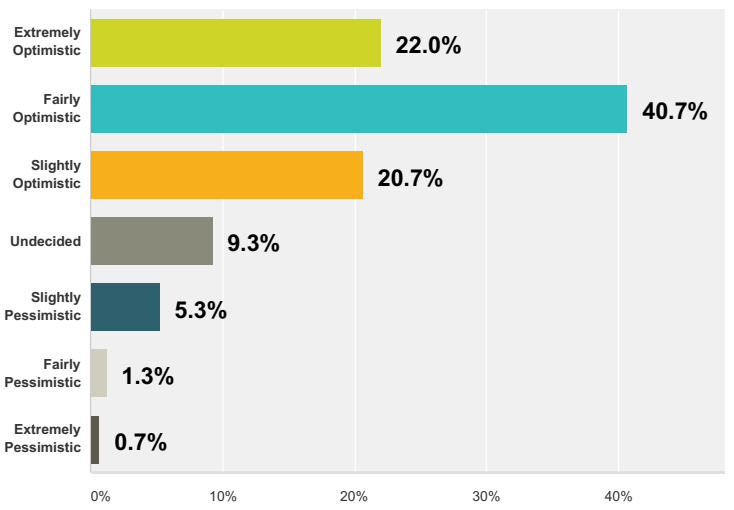
Almost 300 individuals responded to the online survey, answering questions about their manufacturing operations and current challenges facing their businesses. All of the responses included in these results come from individuals who work at locations where gears, splines, sprockets, worms and similar products are manufactured. They work for gear manufacturing job shops, captive shops at OEMs and end user locations.

A full breakdown of respondent demographics can be found at the end of this article.

Gear Industry Optimism

As usual, the gear industry is generally optimistic about its future. Over the past 10 years, our surveys have shown that about 88% of all respondents are optimistic about the future. This year is no different, with 83.4% showing some level of optimism. Of particular note this year is that among the optimistic, there was a shift toward "Extremely Optimistic" and "Fairly Optimistic". There are also fewer pessimists (7.3%) in 2017 than there were last year (12.5%).

Please describe your level of optimism regarding your company's ability to compete over the next five years.



Significant Business Challenges

More than ever, the theme of this year seems to be the difficulty in finding skilled labor. Here's a sampling of what respondents say are the most significant business, manufacturing and engineering challenges facing them today.

- "Finding skilled labor."
- "Increasing efficiencies"
- "Limited factory footprint."
- "Incorporating new technologies and products."
- "Development of new technologies."
- "Political uncertainty and being able to access a high level of skill."
- "Marketing."
- "Long procurement lead time."
- "Cost competitiveness, technology obsolescence and improved flexibility."
- "Rising cost of labor, materials and logistics."
- "New production plant and new product line."
- "Batch size fragmentation, increased number of products and therefore higher business complexity. Being able to develop new parts in a very short time (less than four months)."
- "Keeping up with the work."
- "Costs at low volumes."
- "Staying competitive."
- "Securing the quality of products, developing new parts."
- "Finding skilled, multifunctional engineers."
- "Doing more with less."
- "Finding or developing skilled workers."
- "Better throughput, better shop management."
- "Skilled young engineering talent."
- "Skilled labor. Gear experience is like no other."
- "Automation."
- "Transfer of product overseas due to currency fluctuation."
- "Industry 4.0."
- "Employee training, adding automation."
- "Obtaining and keeping good engineers."
- "Insane amount of quality requirements and audits."

Employment

Gear industry employment definitely took a turn for the worse in 2016, but the outlook for 2017 is more promising. 38% of respondents expect their companies to increase staff this year. Only 15% are expecting a decrease.

Finding competent employees.”

“Talent.”

“Shifting production around to different facilities and/or external suppliers.”

“Budget constraints are very limiting to developing new designs/products.”

“Lack of people.”

“Increased foreign competition.”

“Improve the engineering department to reduce the lead time of new gears.”

“Increasing skilled workforce to meet customer demand.”

“Skilled labor.”

“Insurance expert working hard due to migration out of country.”

“Keeping present equipment running smoothly.”

“Manufacturing and product innovation.”

“Finding engineering and trained/skilled labor.”

“Productivity and new product development.”

“Maintaining and training adequate labor.”

“Finding and retaining good help. The quality of help is diminishing.”

“Cost reductions.”

“Employee training. Adding automation.”

“Quality.”

“Finding skilled labor.”

“Short delivery time for highly customized products. Customer hesitates for months and then suddenly wants it in a short time.”

“Increasing product range.”

“Cut costs with increased productivity.”

“Need to replace/modernize equipment.”

“Cost reduction.”

“Low tolerances.”

“Increasing efficiency.”

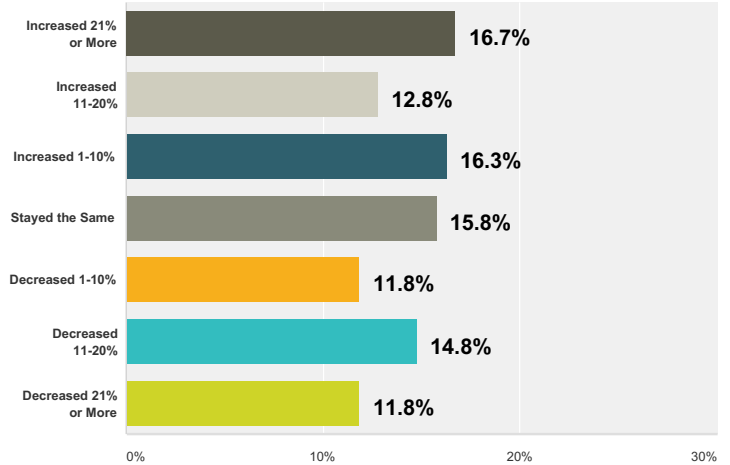
“Insane amount of quality requirements and audits. Finding competent employees.”

“Hiring a good mechanical technician.”

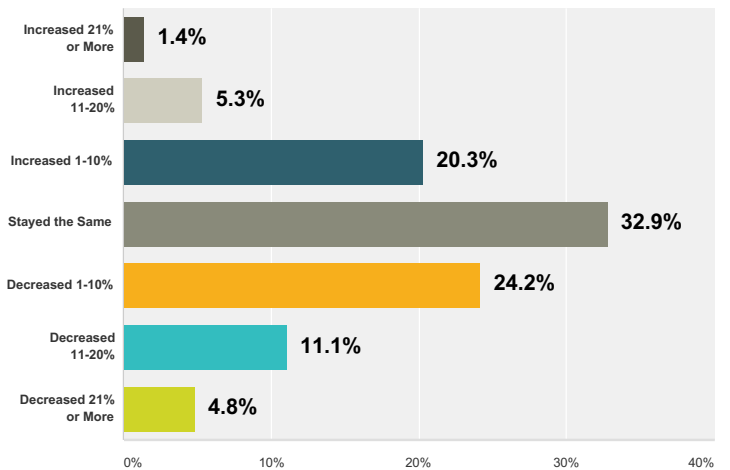
“Talent.”

“Lack of capital to purchase new technology.”

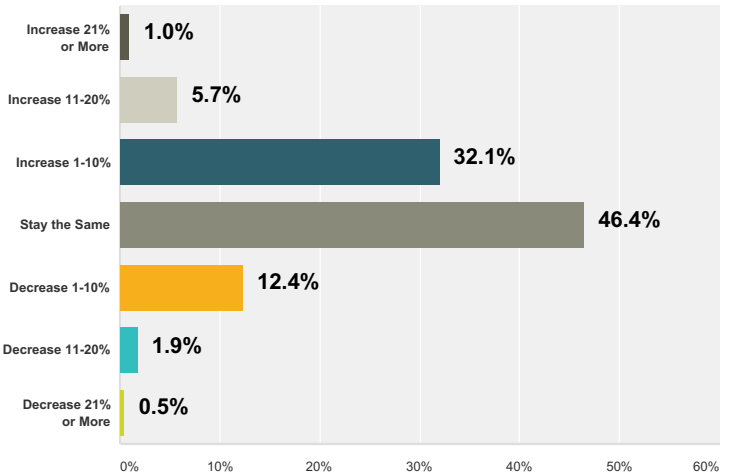
How does your location's employment level compare with its employment level 10 years ago?



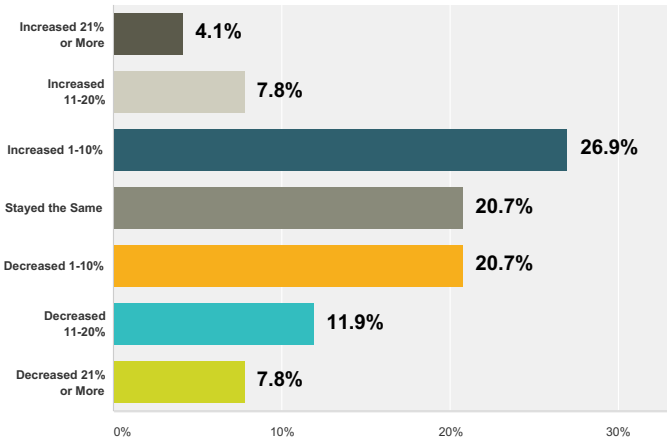
How has your location's LEVEL OF EMPLOYMENT changed in calendar year 2016 vs. 2015?



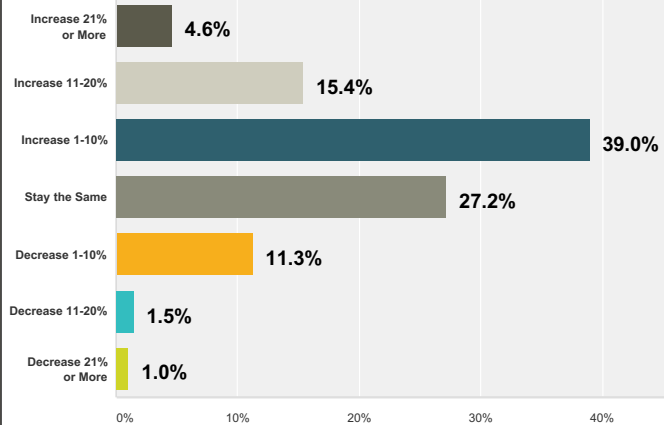
How do you anticipate your location's level of employment will change in 2017 vs. 2016?



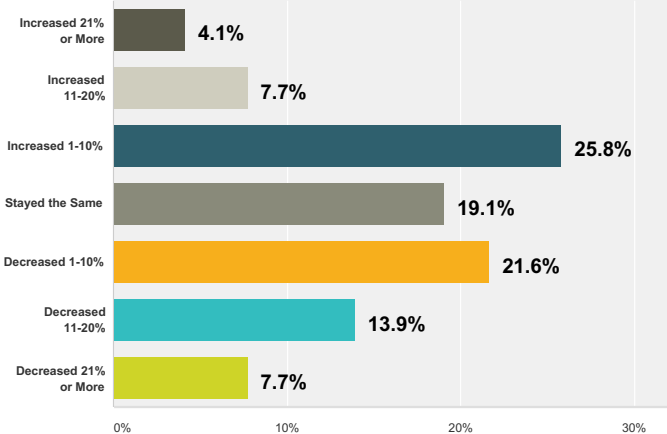
How has total PRODUCTION OUTPUT (unit volume) changed over the last 12 months?



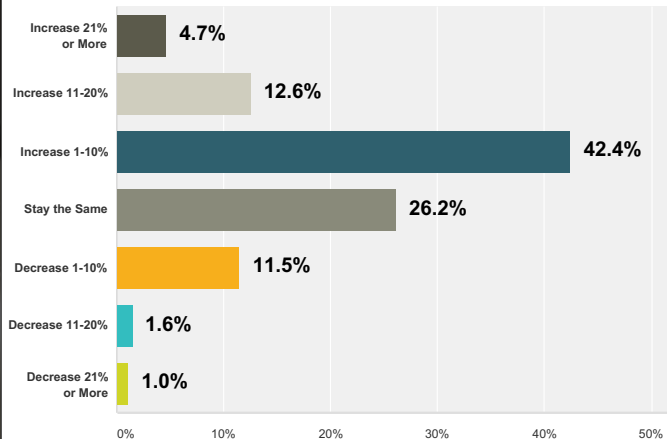
How much do you expect production output (unit volume) to change over the NEXT 12 MONTHS?



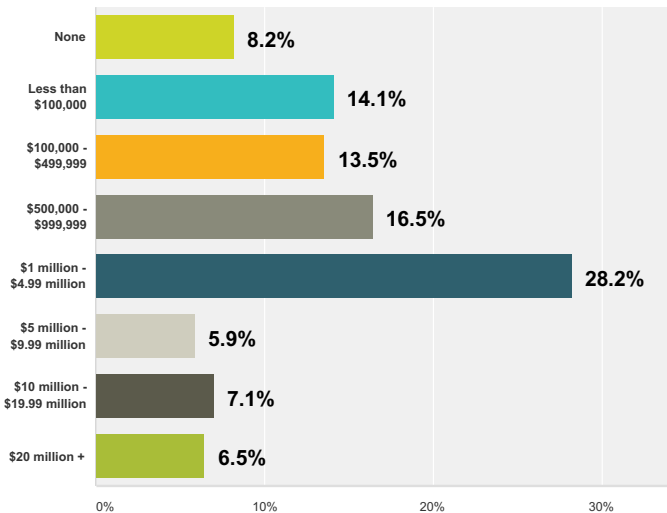
How has total SALES VOLUME changed over the last 12 months?



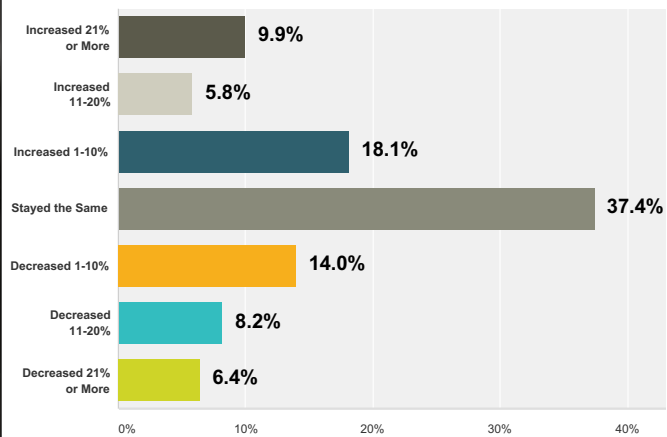
How much do you expect SALES volume to change over the NEXT 12 MONTHS?



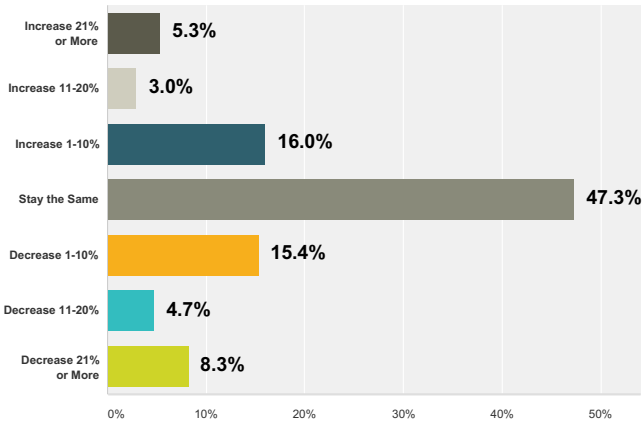
Please indicate your location's approximate level of capital spending in 2016:



How did your location's CAPITAL SPENDING in 2016 compare with the previous year?



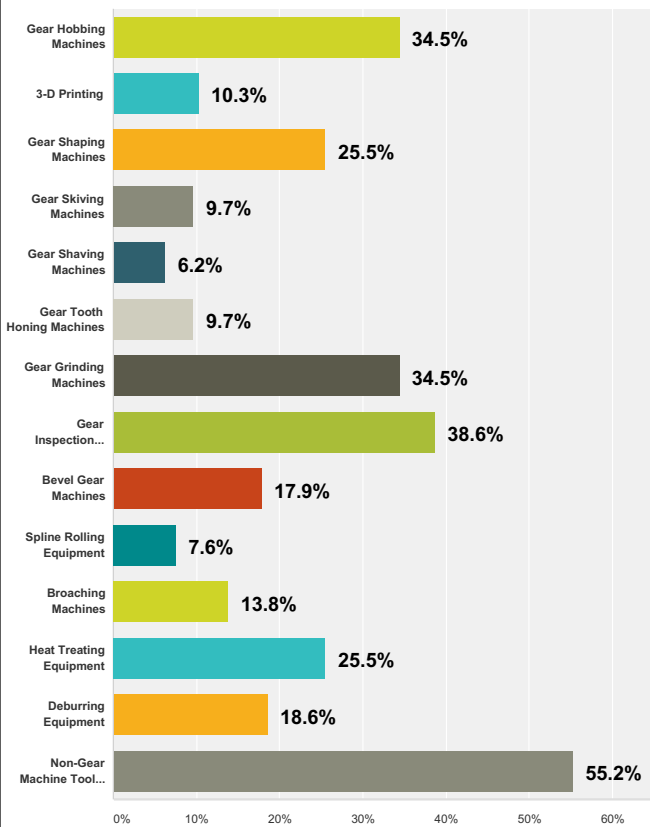
How do you expect your location's 2017 capital spending to compare with 2016?



Capital Spending

The majority of respondents expect to see little change in capital spending versus last year, although more expect to cut back (28.4%) than expect to increase (24.3%).

For which production functions do you expect to purchase equipment in 2017?



More gear industry companies will be investing in 3-D printing in 2017 than will be investing in skiving machines, shaving machines, gear tooth honing machines and spline rolling equipment. Hobbing, shaping, grinding and inspection remain the most significant gear manufacturing technologies.

Capital Spending

78% of respondents work at locations that spent more than \$100,000 on capital equipment in 2016.

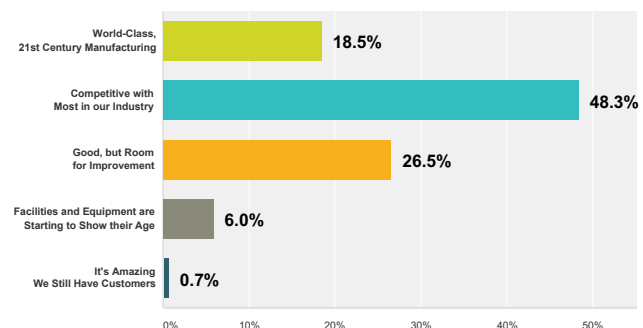
48% work at locations that spent more than \$1,000,000.

29% of respondents' companies spent less than last year.

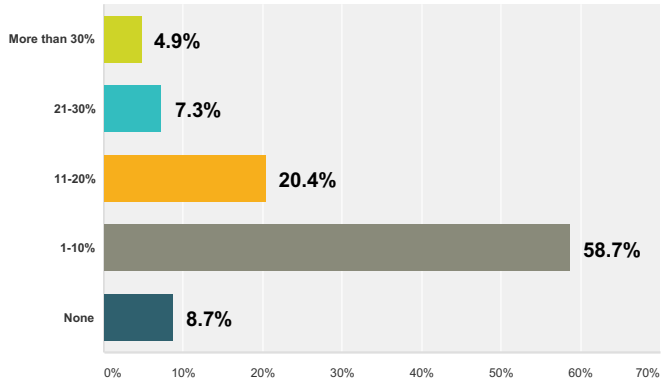
34% of respondents' companies spent more

66% of respondents expect to spend the same as 2016 or more in 2017.

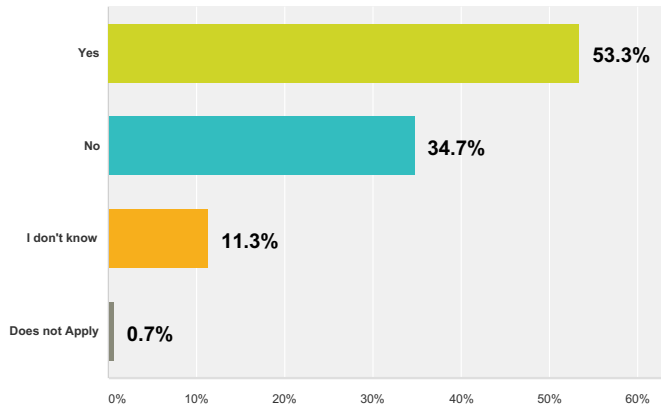
Classify your company's manufacturing operations and technology.



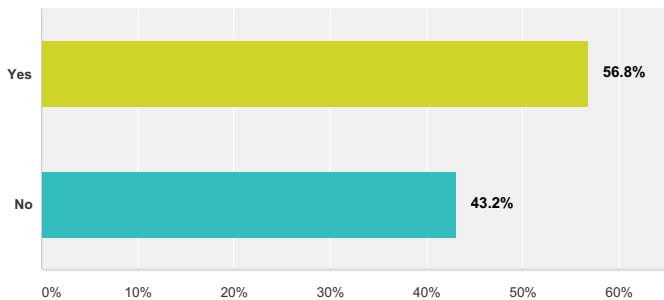
What percentage of your company's skilled workforce is due to retire in the next 5 years?



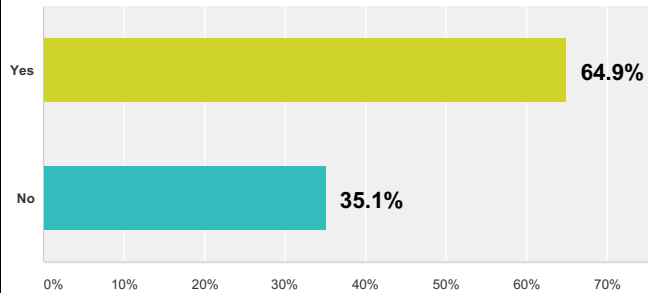
Is your company currently experiencing a shortage of SKILLED labor?



Does your company have a mentoring program in place for new hires?



Does your company work with (assist, contribute, etc) local educational venues to help develop new trained employees (or training for employees)?



Skilled Labor

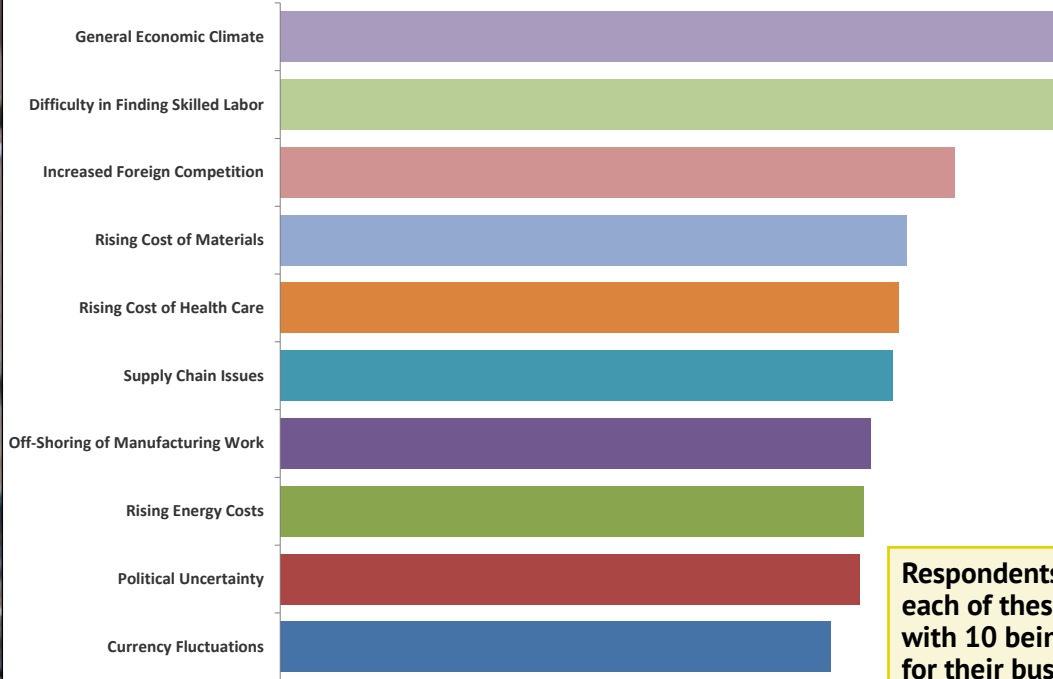
53.3% of respondents indicated their companies' are experiencing a shortage of skilled labor. Although this number is smaller than last year (64%), it remains one of the hot topics in the gear industry and in manufacturing at large. It was one of the most frequently mentioned challenges cited by survey respondents.

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Weighted Significance of Challenges Facing the Gear Industry



Respondents were asked to rank each of these challenges from 1-10, with 10 being the most challenging for their business. Higher-ranked responses were weighted accordingly to determine the challenges that are most significant overall to the greatest number of respondents.

Choose how each of the following quality processes/philosophies is used at your location:

