

STATE OF MANUFACTURING

2024 outlook report for manufacturers



WIPFLI



From technology and automation to employee retention and lingering supply chain issues, manufacturers are dealing with a host of challenges. Yet many are optimistic about what 2024 may bring. That speaks to the resiliency of the industry as a whole and how leaders are guiding the way.

Wipfli surveyed over 330 manufacturers across the country — nearly all of whom were directors or C-level executives — to determine their biggest challenges, their outlook on the economy and what they’re seeing success with.

Table of contents

Executive summary	3
Industry optimism	4
Industry 4.0 technologies and automation	6
Top 3 industry challenges	10
Thoughts on the future	15
Appendix: The raw data	16

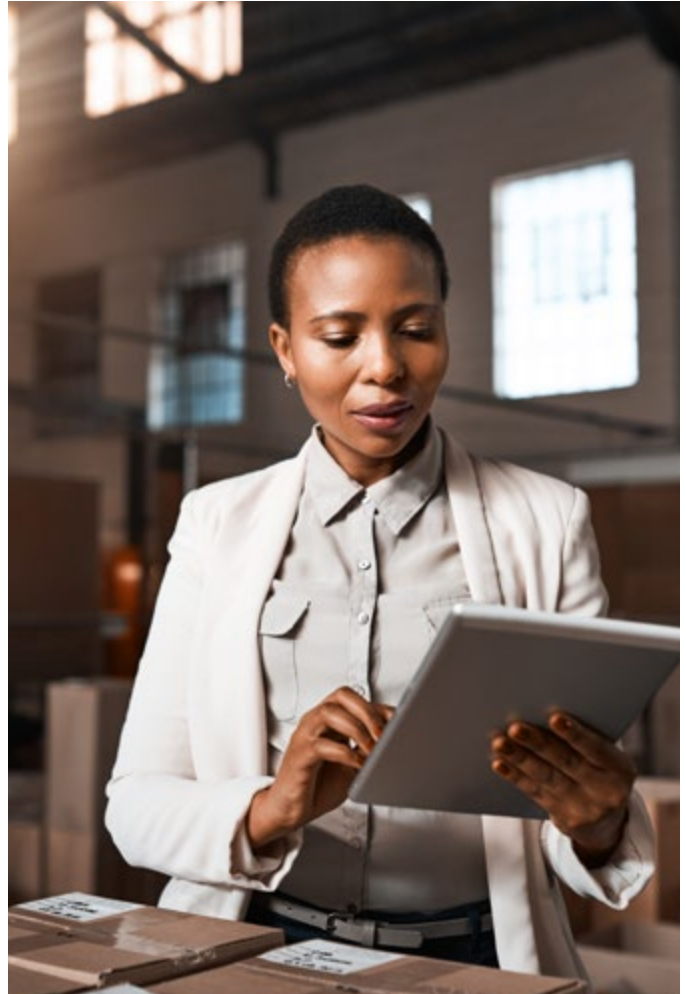
Executive summary

Manufacturers are optimistic about the coming year, even in the face of economic headwinds. The resiliency that carried manufacturers through the worst of the pandemic has allowed them to emerge on the other side with a positive outlook on what's to come.

Wipfli surveyed more than 330 manufacturers nationwide to compile our 2024 outlook report and found that manufacturers are bullish on the economy, their future earnings and their rate of digital transformation.

At the same time, they cite employee retention, data security and increasing costs tied to inflation as some of the biggest challenges in the industry. Finding solutions to those challenges remains a high priority for them.

Manufacturers also prioritize digital and technological advancement, but most still haven't implemented robotics and automation and are not yet leading on the artificial intelligence cultural and economic shift. As an industry, manufacturing has work to do to maintain its place as a leader and innovator in the American economy.



Key takeaways

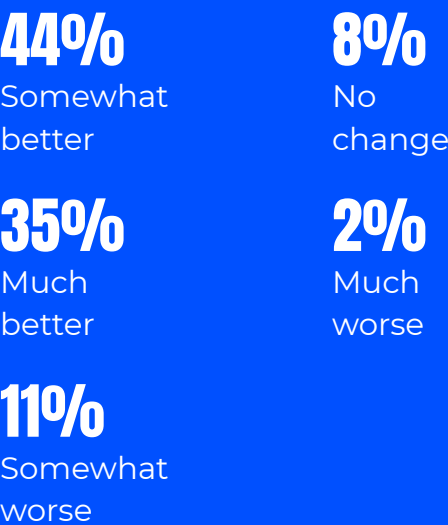
- **88%** expect increased revenues in 2024.
- **71%** intend to increase Industry 4.0 technology investment in 2024.
- **99%** place some level of importance on digital transformation and technological advancement, yet only 47% are using robotics or automation, and only 36% have implemented artificial intelligence into their business operations.

Industry optimism

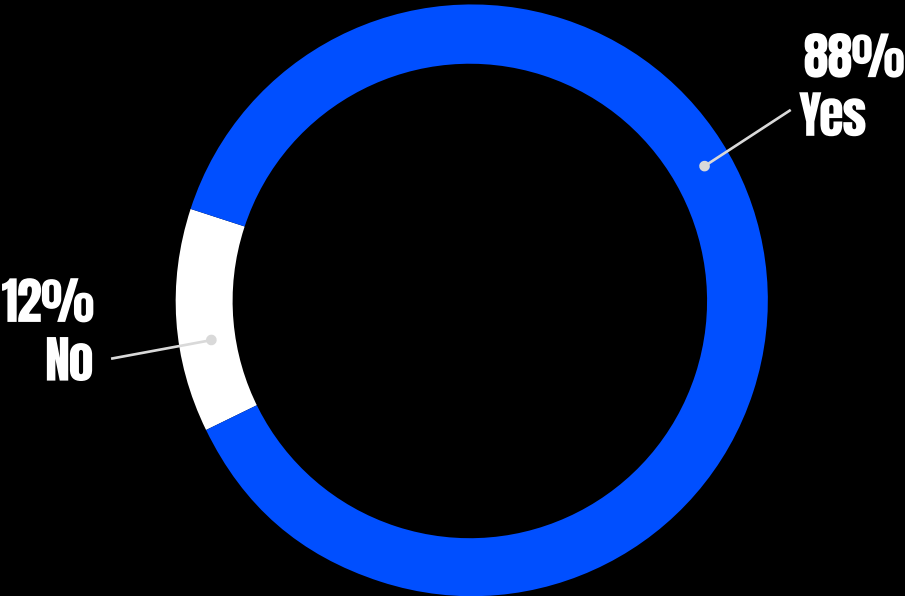
Manufacturers are overwhelmingly positive on both the economy as a whole and their prospects to increase revenue. Nearly four in five survey respondents feel more optimistic now about their financial prospects than they did at the start of 2023, and almost nine in 10 project revenue increases in 2024.

Most manufacturers surveyed are targeting new customers more frequently than existing customers but also plan to focus on increasing product sales in existing markets in the coming year.

Compared to the start of 2023, how do you feel about your company's future financial prospects?



Do you project increased revenues in 2024?



Manufacturers' confidence in their future revenues is mirrored by a strong belief that they are prepared to withstand any disruption in their operations. Nearly every respondent said they are at least somewhat prepared to stave off a threat to operations, and nearly two-thirds are adequately prepared or extremely prepared (with contingency plans in place).



Which best describes your company's level of preparedness and resilience to withstand disruptions in its manufacturing operations?

49%

Adequately prepared

15%

Extremely prepared (with contingency plans in place)

35%

Somewhat prepared

1%

Not prepared at all

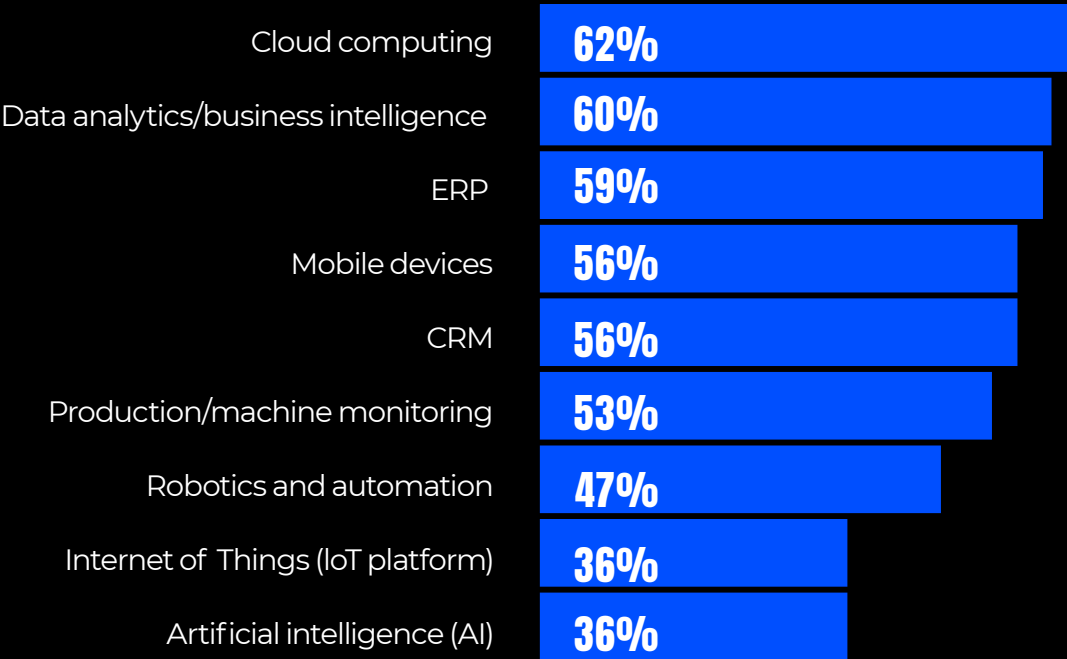
Industry 4.0 technologies and automation

Manufacturing technologies are evolving quickly, and most survey respondents indicated plans to invest in Industry 4.0 technologies and automation. There's a clear willingness to take action in this area, and there's also a lag in implementation.

Robotics, automation and artificial intelligence are making business processes in nearly every industry smarter and more efficient. The survey found the majority of manufacturers are not using any of these tools in their operations. Data analytics is also standard for most successful businesses, or should be, yet only six in 10 manufacturers said they are using it.



Which of the following technologies do you currently use?



Training and costs remain barriers to full implementation, but the manufacturers that take the lead as early adopters on these key technologies will be best positioned for future success. Starting small but doing so in a way that prepares the company to scale has shown to be very effective in implementing Industry 4.0 and artificial intelligence into manufacturing operations. The real-time data that comes out allows leaders to make better, more timely decisions, which adds value and removes waste from the value stream.

Slow adopters have a lot of catching up to do against the manufacturers that are adopting Industry 4.0 technologies today. Leading firms are generating return on investments in many different areas. Pay attention to these five:

1. **Leveraging data and analytics for continuous improvement:** Industry 4.0 tools offer real-time operational visibility and “status at a glance” into supply chains and factories (e.g., machine, job, part, worker).
2. **Enhancing visibility into schedule attainment:** Industry 4.0 tools offer advanced planning and scheduling to determine the current state of active jobs and work orders, as well as completion predictions to improve on-time delivery.
3. **Gaining a deeper understanding of manufacturing profitability:** Industry 4.0 tools leverage shop-floor-to-top-floor integration and convergence with ERP systems, which allows for tracking and improving manufacturing variances and thus improves job costing and scheduling.

In the next 12 months, which of the following technologies do you plan to invest in?

Robotics and automation

50%

Cloud computing

47%

Data analytics/business intelligence

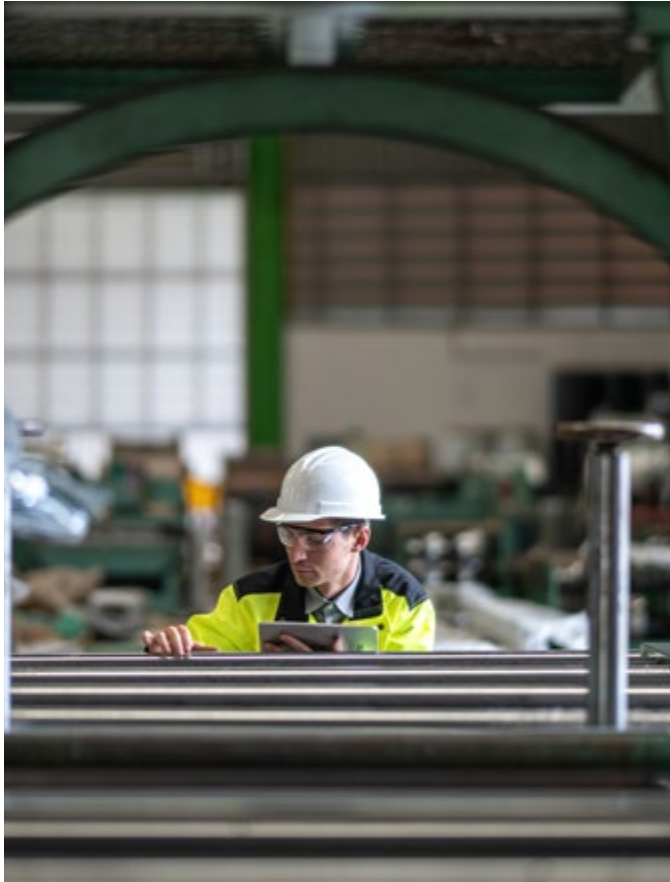
41%

Artificial intelligence (AI)

41%

Production/machine monitoring

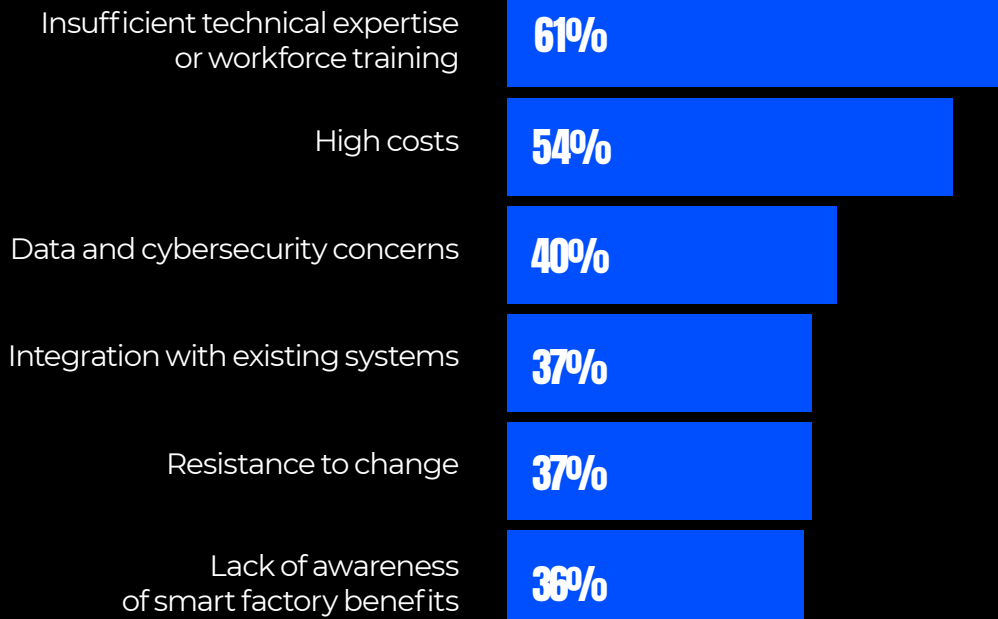
36%



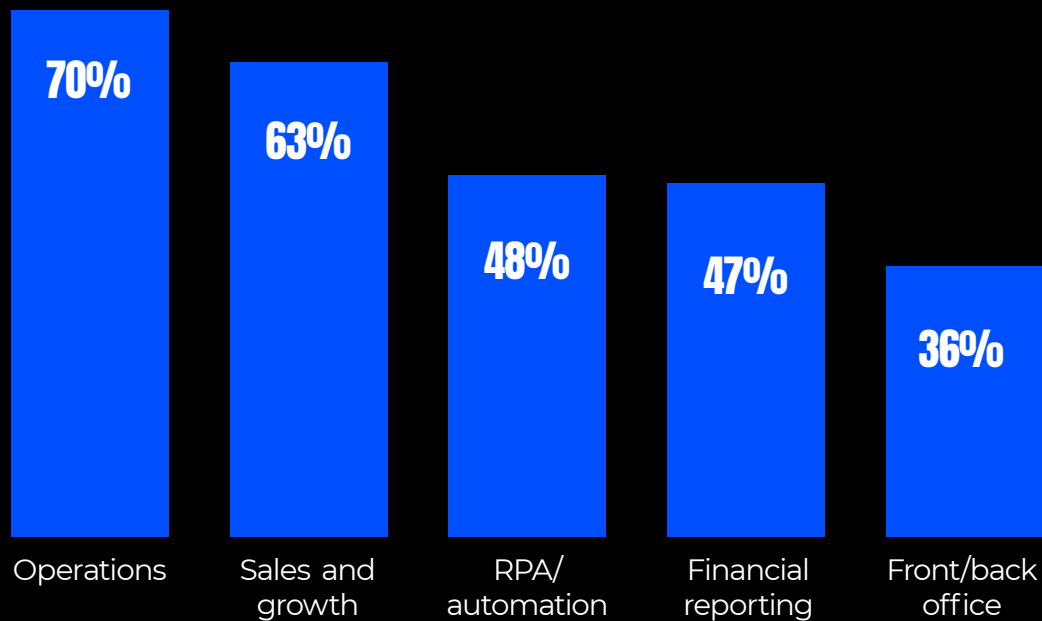
4. **Embracing best practices between connected machines and workers:** Industry 4.0 tools support frontline workers with intuitive human-machine interfaces to drive production, quality and maintenance so that machine, part and human interactions can produce better results than standard.
5. **Driving environmental, social and governance (ESG) strategies toward zero waste:** Industry 4.0 tools are capturing machine process and energy data to drive zero defect quality and zero waste strategies that impact ESG emission costs and the company's overall carbon footprint.

What are the main barriers to implementing these technologies?

(Select all that apply.)



Of those who plan to invest in AI, which areas does your company plan to leverage AI? (Select all that apply.)



How do you believe the rate of the manufacturing industry's digital transformation compares to most other industries?

47%

Above average

17%

Below average

26%

At the same pace

7%

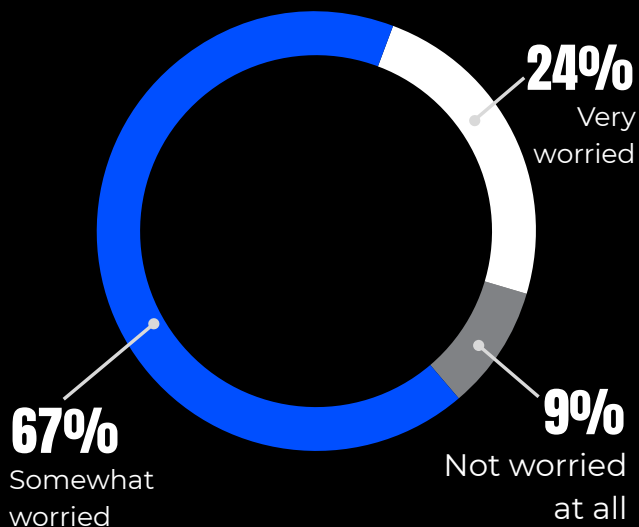
Far beyond

Top 3 industry challenges

While most manufacturers feel better about where they are now than they did at the beginning of the year, more than nine in 10 said they are either somewhat worried or very worried about a recession, and they chose inflation as their biggest financial concern. To combat this challenge, many manufacturers are being more conservative with their capital expenditures, investing only in those projects that management deems necessary.



How worried are you about a possible recession and its impact on your business?



What is your top macroeconomic concern for 2024?

30%
Inflation

23%
Supply chain issues

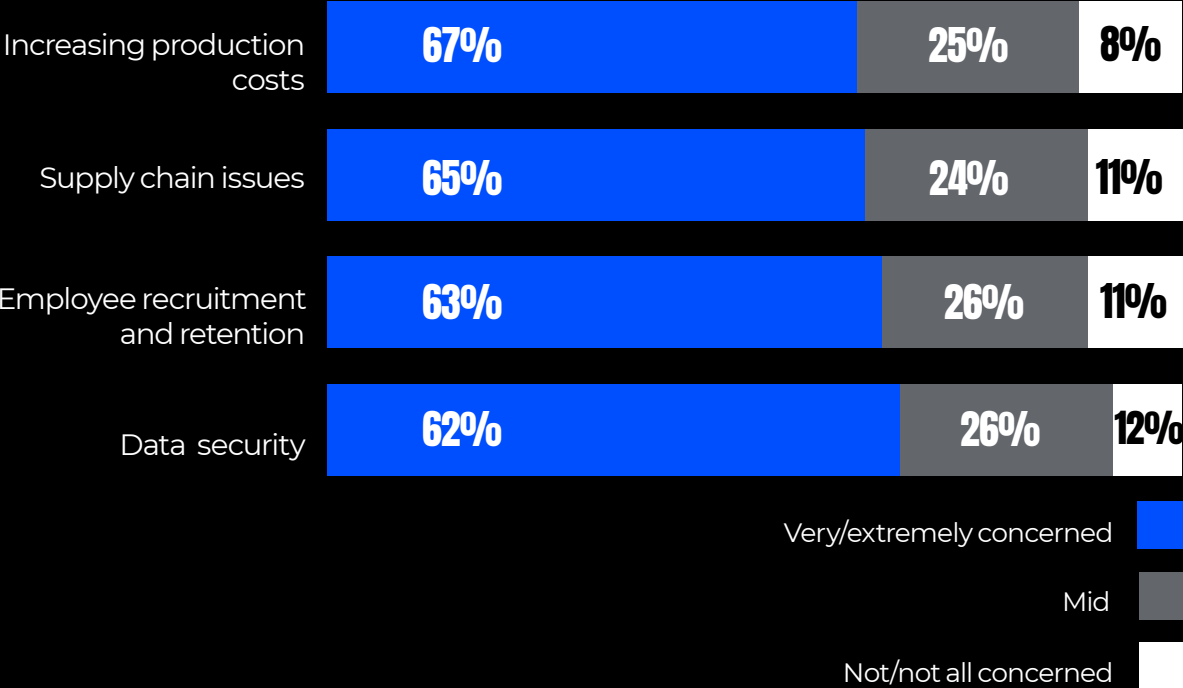
26%
Recession

18%
Labor shortage

Inflation and recession worries were reflected in manufacturers' top three concerns, which included costs associated with production and supply chain, along with employee retention and cybersecurity.



On a scale of 1-5 with 1 being “not at all concerned” and 5 being “extremely concerned,” how concerned are you about the following?



1. Production costs and supply chain issues

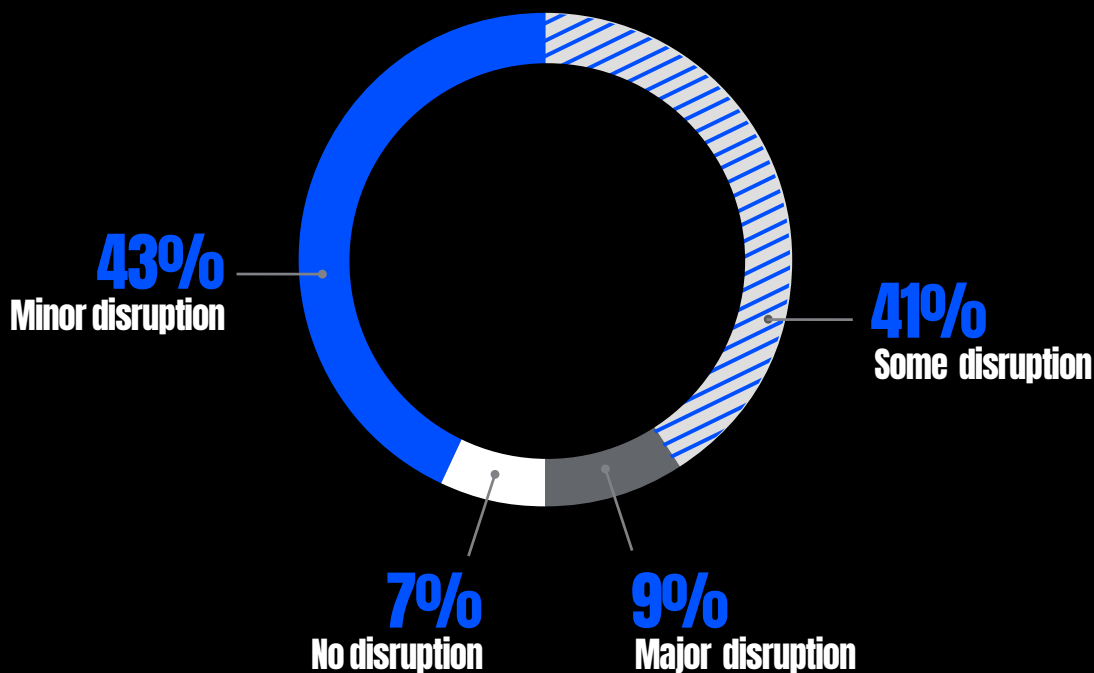
Supply chain problems and increasing production costs due to inflation have been pain points for manufacturing going on three years now, and the issues persist. Both challenges remain among the highest macroeconomic concerns for manufacturers, along with the threat of a recession.

Today's traditional manufacturing supply chains are evolving to balance costs, efficiency and resilience. Four components important to a successful supply chain strategy include:

1. **Strengthening existing supplier relationships**
2. **Engaging with multiple suppliers**
3. **Deploying digital Industry 4.0 tools for increased visibility**
4. **Combining efficiency with resilience**

Most companies are turning to Industry 4.0 and digital capabilities for enhanced production and supply chain agility and visibility. By leveraging real-time market intelligence and predictive tools, manufacturers can better navigate current market volatility and pivot more quickly to their Plan B.

Which best describes the disruption to your supply chain over the last 12 months?



2. Employee recruitment and retention

Keeping good employees and recruiting new ones remains a major challenge in nearly every industry, and manufacturing is no exception. Those who identified employee retention and recruitment as a high priority are using increased pay and bonuses, better benefits and other perks to keep and attract top talent.

Manufacturers of durable goods are prioritizing different employee retention tactics than manufacturers of nondurable goods. In addition to wages, durable goods manufacturers are focused on better perks and benefits along with upskilling frontline staff. Manufacturers of nondurable goods are offering flexible work arrangements and leadership training along with higher wages.

Turnover among frontline employees remains roughly the same in the most recent survey as it was in the previous Wipfli manufacturers survey about two years earlier.



Which of the following methods are you using to address your employee recruitment/retention concerns?

67%

Higher wages

56%

Increased benefits, perks

56%

Flexible work arrangements

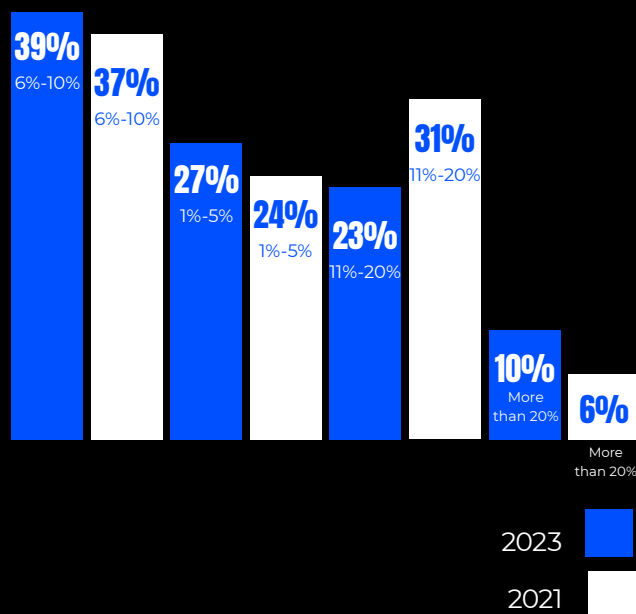
54%

Leadership training for management and leadership staff

50%

Upskilling and reskilling for frontline staff

What is the annual labor turnover for frontline employees?



3. Data security

Cybersecurity rates as a top concern among manufacturers, although there's evidence of improvements in this area in the last two years. In our manufacturers survey from two years ago, 45% said they had three or more incidents of unauthorized access to data in the previous 12 months. That improved to 24% in the most recent survey.

What's changed? Manufacturers are now required to complete some basic cybersecurity requirements to qualify for cyber insurance. While this is a good first step, hackers and other nefarious third parties are stepping up their game and introducing artificial intelligence and other software "bots" in an effort to penetrate and access manufacturing data. The risk of corporate breaches is even higher today than two years ago, and manufacturers must continue to increase their cybersecurity game to remain ahead of third-party hackers.

Nearly 70% of manufacturers in the survey said they increased their investment in cybersecurity measures. The percentage of manufacturers increasing investment in data security and adding cyber safeguards has grown over the last two years.

What actions has your company taken in the past 12 months to ensure the security of its network and data?

Increased investment in cybersecurity technologies (e.g., upgraded networks and devices with security features)

69%

2023

59%

2021

Implemented safeguards to better protect networks and data (e.g., enhanced access controls, maintenance procedures, 24/7 security monitoring)

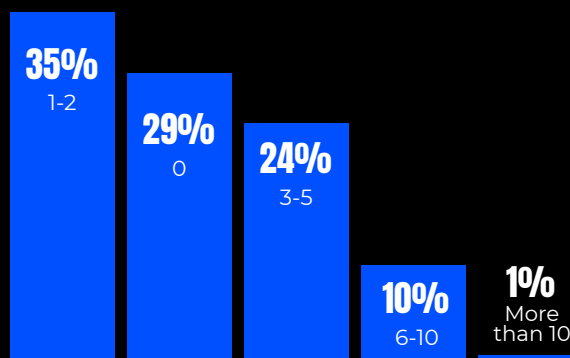
65%

2023

49%

2021

How many times in the past year has your company identified unauthorized access to corporate networks and data?



Thoughts on the future

Overall, manufacturers are optimistic on both the economy as a whole and their own prospects for growth in 2024 — despite most having recessionary concerns.

With the talent shortage enduring into the near future, manufacturers will need to continue evaluating and implementing new technologies to better understand the financial impacts of shop floor operations and enable top-line growth to exceed headcount growth.

Because digital transformation and data security are also top of mind, we expect more manufacturers to invest in Industry 4.0 technologies, including cybersecurity tools for their data and their operations.

Lastly, with so much uncertainty for manufacturers in 2024 — ranging from politics to the workforce to the threat of tax increases — many will benefit from revisiting their strategic plan. Successful manufacturers will identify ways to continue to invest in growth opportunities, take cost out of the business and automate core business functions, and stay mindful of cash outflows.

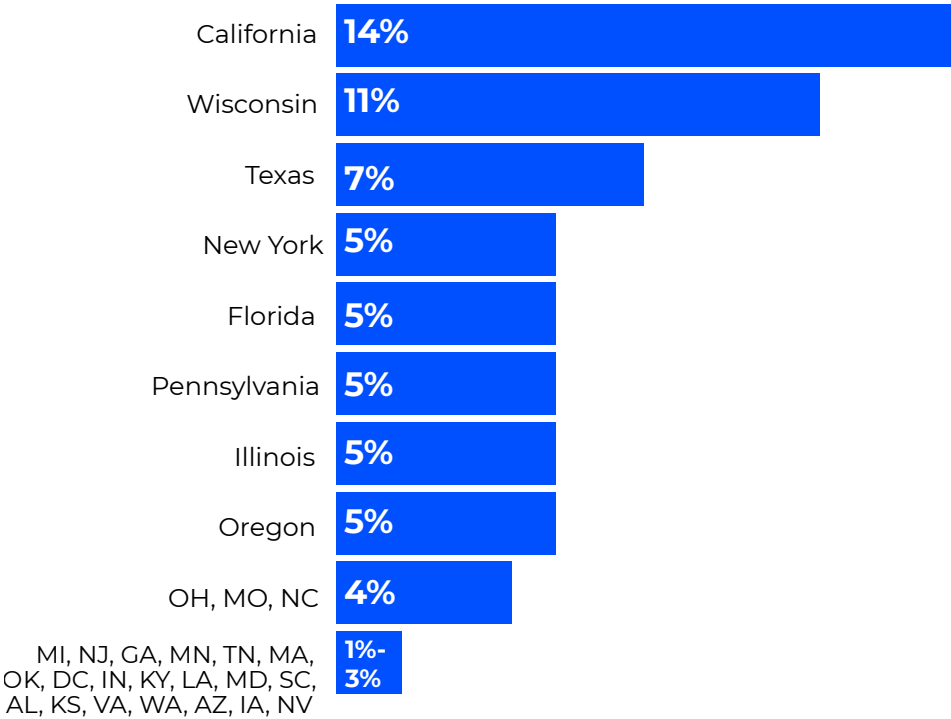


Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Wipfli received survey responses from 335 manufacturers across 31 states. The survey was emailed in August 2023. All responses are confidential and anonymous.

In which state is your company's headquarters?



Compared to the start of 2023, how do you feel about your company's future financial prospects?

44%

Somewhat better

35%

Much better

11%

Somewhat worse

8%

No change

2%

Much worse

Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Which best describes your company's level of preparedness and resilience to withstand disruptions in its manufacturing operations?

49%

Adequately prepared

15%

Extremely prepared
(with contingency plans in place)

35%

Somewhat prepared

1%

Not prepared at all

(If responding adequately or extremely prepared)

Which of the following strategies does your company employ to enhance resiliency?

76%

Investing in employee skill development and cross-training

57%

Utilize data-driven decision-making and real-time monitoring

70%

Supplier relationship management

54%

Supplier diversification

58%

Boosting local production capacity

48%

Implementing redundant systems and equipment

Appendix: The raw data

Percentages may not add up to 100% due to rounding.

How many times in the past year has your company identified unauthorized access to corporate networks and data?

35%

1-2

24%

3-5

1%

More than 10

29%

0

10%

6-10

What actions has your company taken in the past 12 months to ensure the security of its network and data?

(Select all that apply.)

69%

Increased investment in cybersecurity technologies (e.g., upgraded networks and devices with security features)

45%

Conducted a cyber risk assessment

65%

Implemented safeguards to better protect networks and data (e.g., enhanced access controls, maintenance procedures, 24/7 security monitoring)

35%

Conducted penetration testing

33%

Adopted an industry-standard, all-encompassing cybersecurity framework

52%

Developed or revised a cyber risk management policy that communicates cyber prevention, detection, response and recovering actions

33%

Hired cybersecurity expertise or added a virtual CISO

52%

Improved systems and processes to more rapidly identify a cybersecurity event

4%

No steps taken to improve security

Appendix: The raw data

Percentages may not add up to 100% due to rounding.

How worried are you about a possible recession and its impact on your business?

67%

Somewhat worried

24%

Very worried

9%

Not worried at all

What is your top macroeconomic concern for 2024?

30%

Inflation

23%

Supply chain issues

26%

Recession

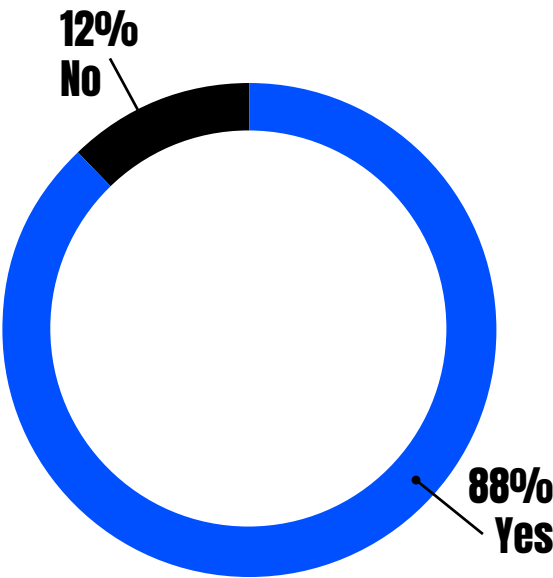
18%

Labor shortage

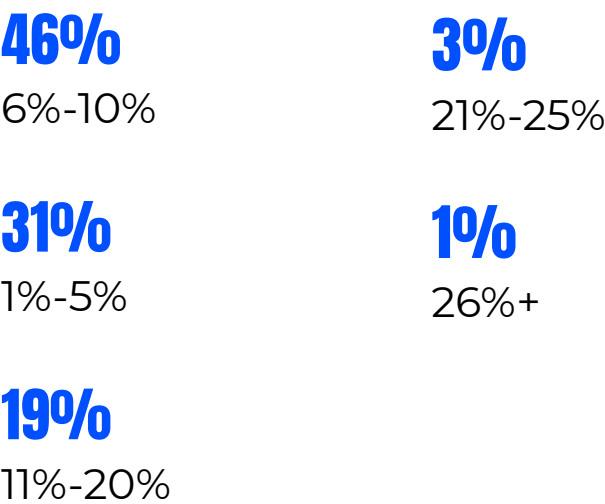
Appendix: The raw data

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Do you project increased revenues in 2024?



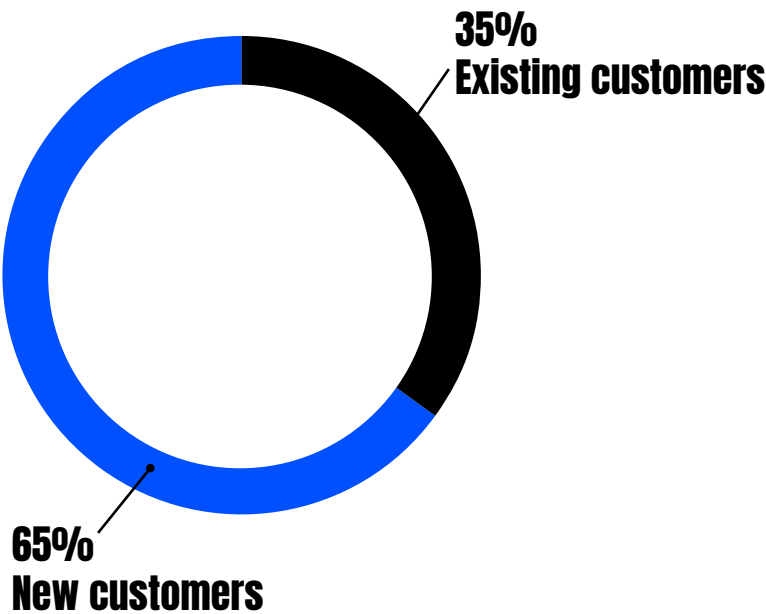
Which best describes your revenue growth projection for 2024?



Appendix: The raw data

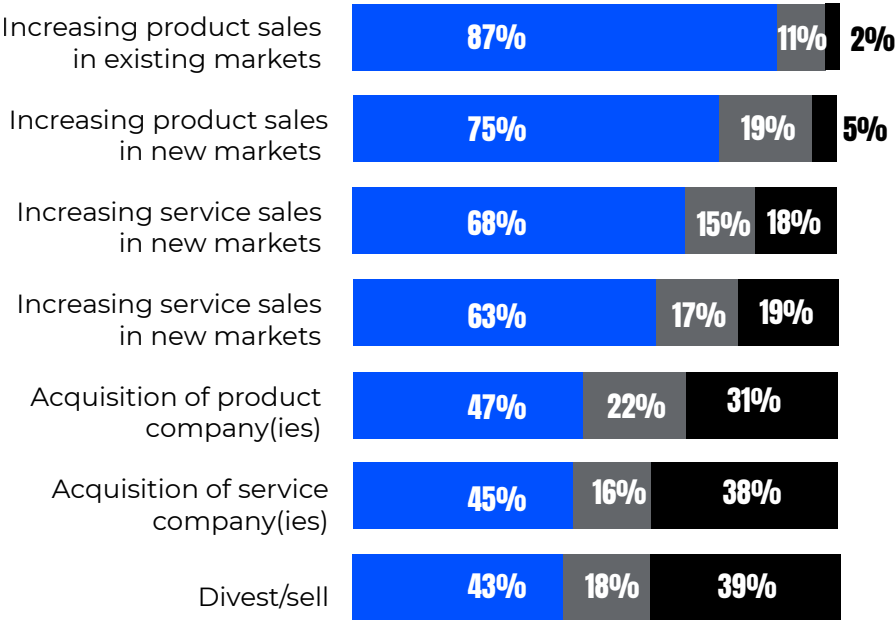
Percentages may not add up to 100% due to rounding.

Who is your primary target for securing new sales in 2023?



Of the following growth strategies, which are the most important to your company in the next 12 months?

Please rate on a scale of 1-5, with 1 being “not at all important” and 5 being “extremely important.”

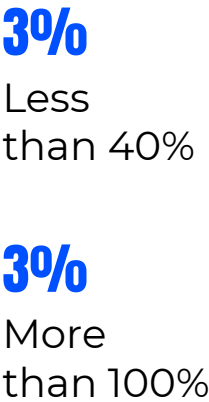
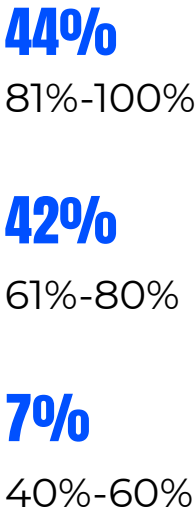


Very/extremely important
Mid
Not/Not at all important

Appendix: The raw data

May not add to 100% due to rounding.

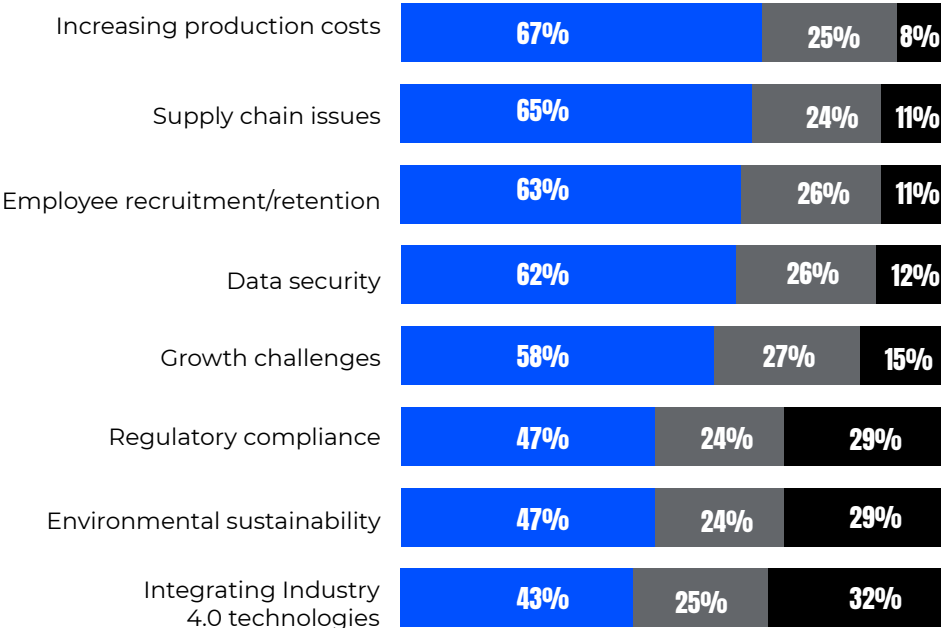
What is your current production capacity, as a percentage of designed capacity, across all of your company's manufacturing plants?



On a scale of 1-5, with 1 being “not at all concerned” and 5 being “extremely concerned,” how concerned are you about the following?

Do you have other concerns not identified above?

Comments included interest rates, staff shortages, industry consolidation and political instability.



Very/extremely concerned
Mid
Not/not all concerned

Appendix: The raw data

Percentages may not add up to 100% due to rounding.

(If rating employee recruitment/retention a 4 or 5 in the prior question)

Which of the following methods are you using to address your employee recruitment/retention concerns?

(Select all that apply.)

67%

Higher wages

56%

Increased benefits, perks

56%

Flexible work arrangements

54%

Leadership training for management and leadership staff

50%

Upskilling and reskilling for frontline staff

41%

Implementing automation technology

30%

Diversity, equity and inclusion (DEI) strategies

28%

Outsourcing/staff augmentation

What is the annual labor turnover for leadership and management employees?

52%

1%-5%

27%

6%-10%

12%

0%

8%

11%-20%

1%

More than 20%

Appendix: The raw data

Percentages may not add up to 100% due to rounding.

What is the annual labor turnover for frontline employees?

39%

6%-10%

27%

1%-5%

23%

11%-20%

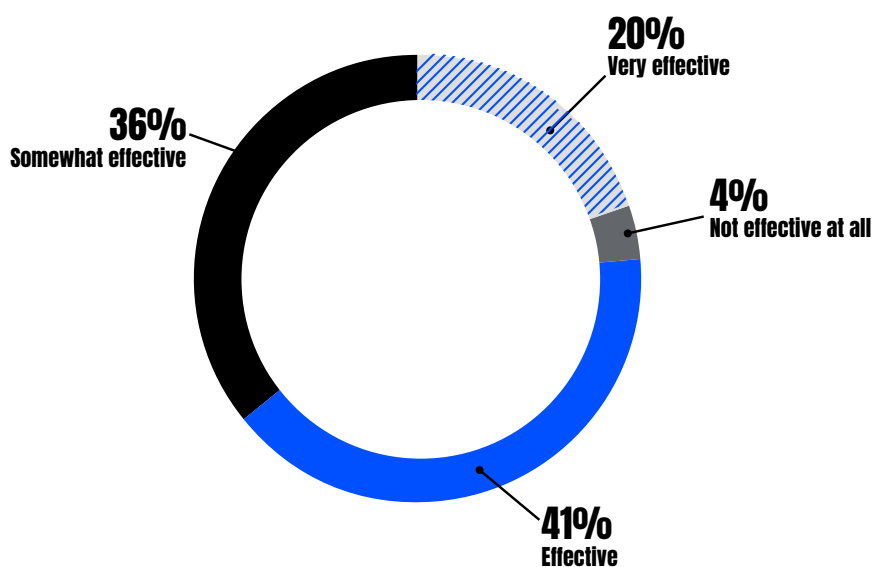
10%

More than 20%

1%

0%

How effective has your company been in implementing lean manufacturing practices?



Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Approximately how long does it take your company to get a new product or service to customers, from ideation to manufacturing to sales, once a market opportunity is identified?

40%

6-12 months

30%

12-18 months

23%

Less than 6 months

5%

18-24 months

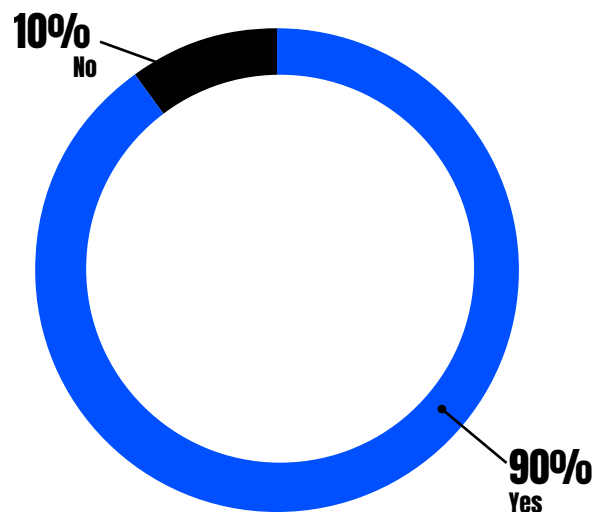
3%

More than 24 months

Do you have a process improvement strategy in place?

(If no) Why not?

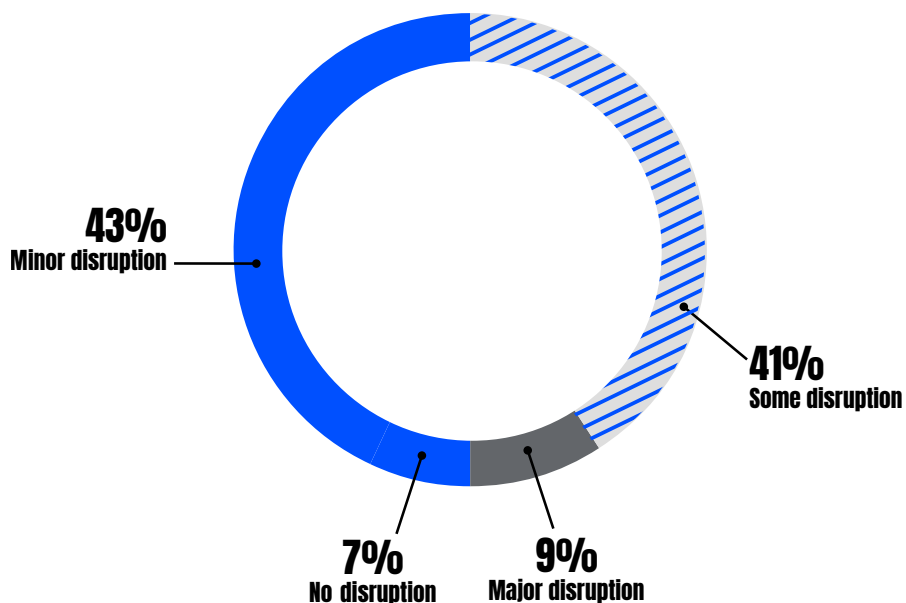
Responses included do not need, in process, lack of resources/budget and not a priority.



Appendix: The raw data

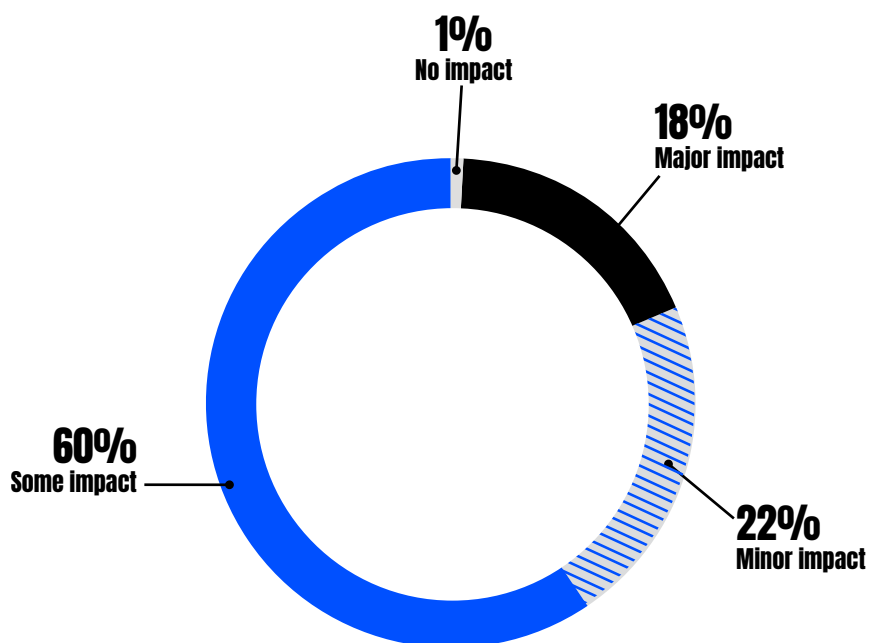
Percentages may not add up to 100% due to rounding.

Which best describes the disruption to your supply chain over the last 12 months?



(If some or major disruption)

What was the impact of this disruption to your company's production?



Appendix: The raw data

Percentages may not add up to 100% due to rounding.

How often do you engage in methods like brainstorming, hack-a-thons, Kaizen, focus groups, and/or collaboration with customers to identify improvement opportunities?

32%
Monthly

27%
Quarterly

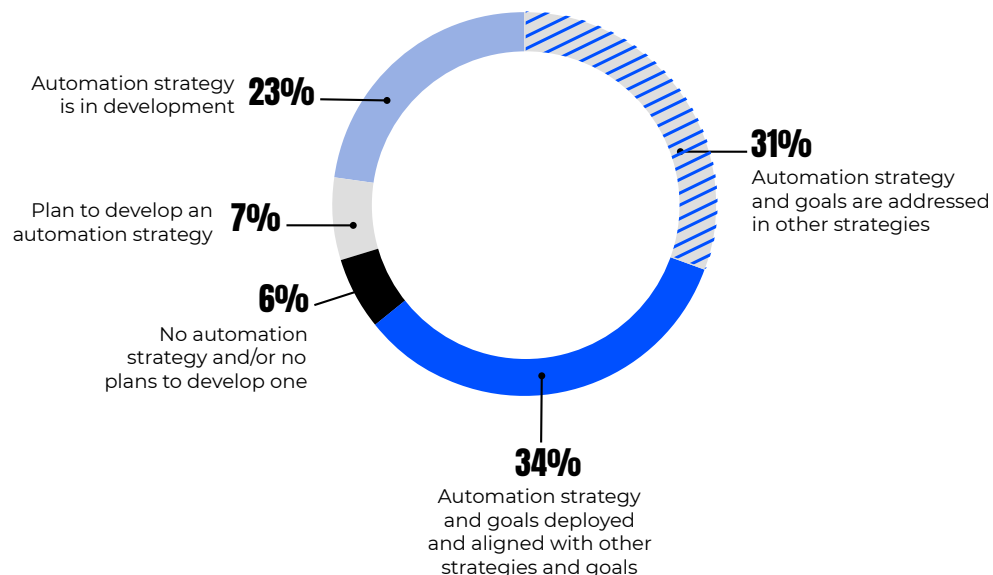
14%
Weekly

14%
Semiannually

7%
Annually

5%
Never

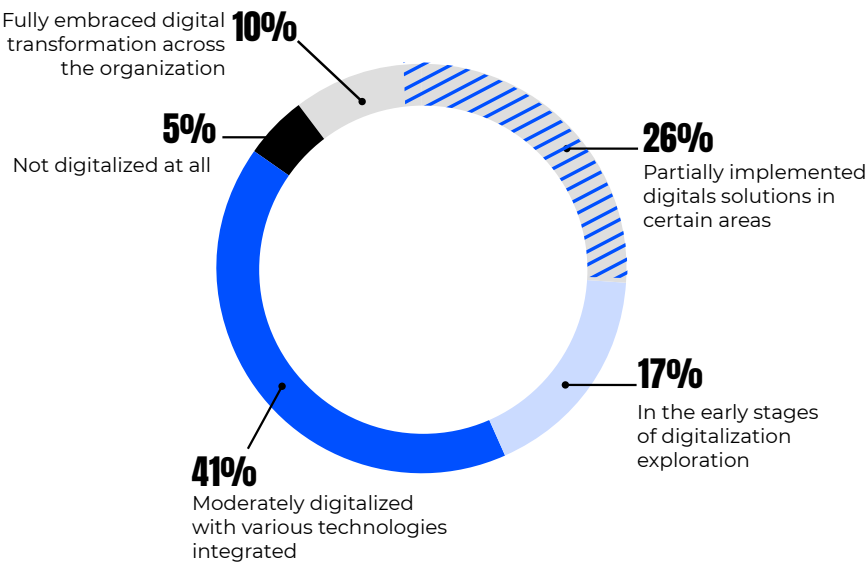
Which of the following best describes your company's automation strategy?



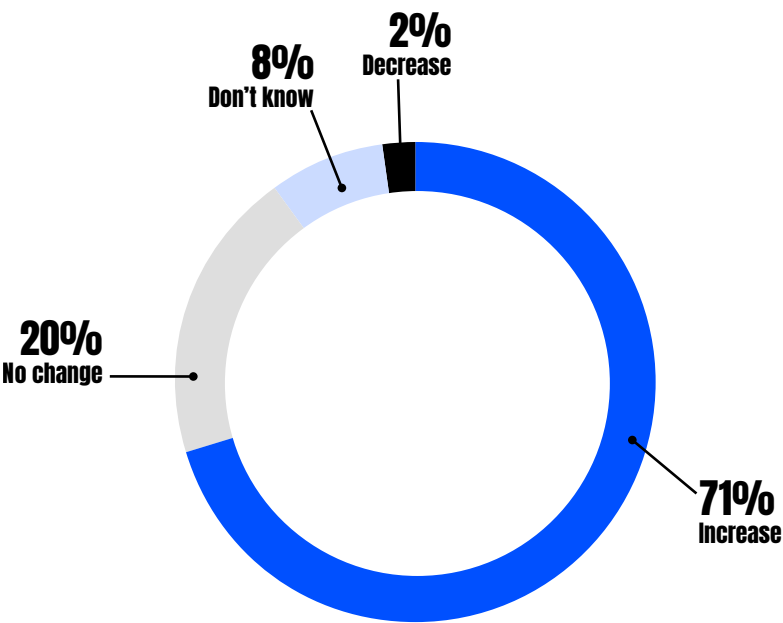
Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Which best describes your company's level of digital maturity/adoption of Industry 4.0 technologies?



Which best describes your plan for Industry 4.0 technology investments in 2024?

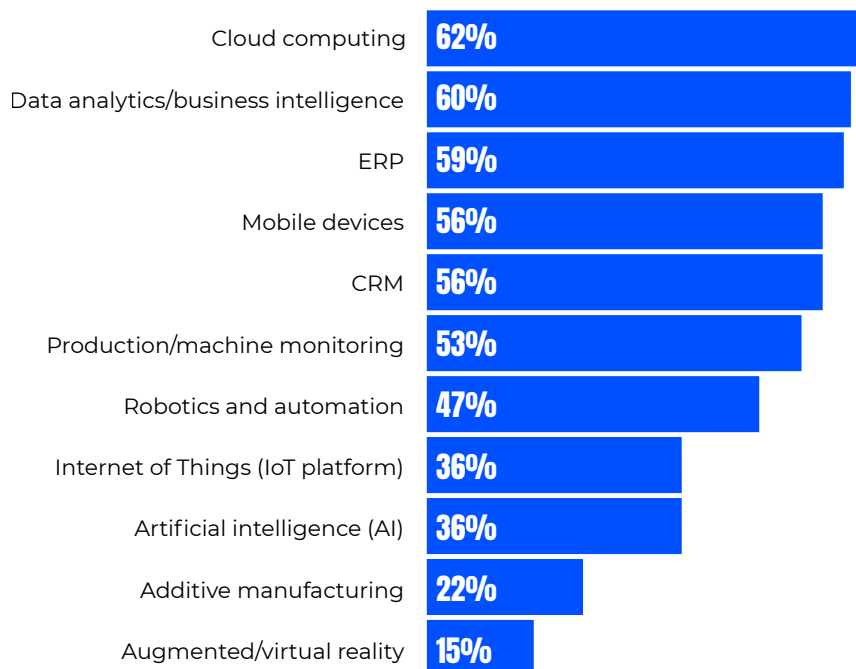


Appendix: The raw data

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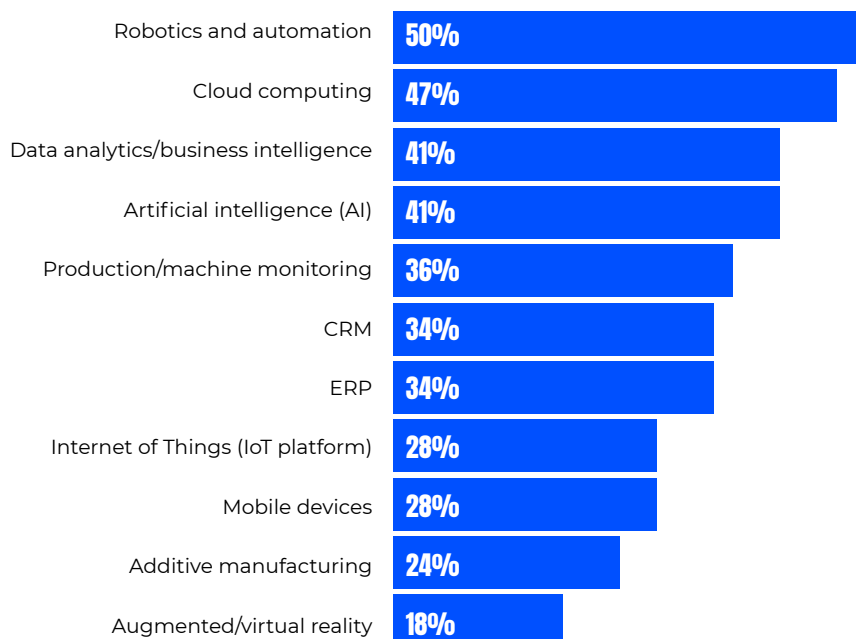
Which of the following technologies do you currently use?

(Select all that apply.)



In the next 12 months which of the following technologies do you plan to invest in?

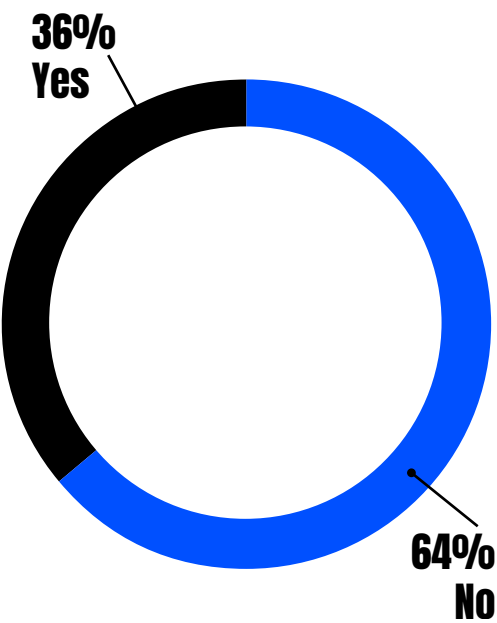
(Select all that apply.)



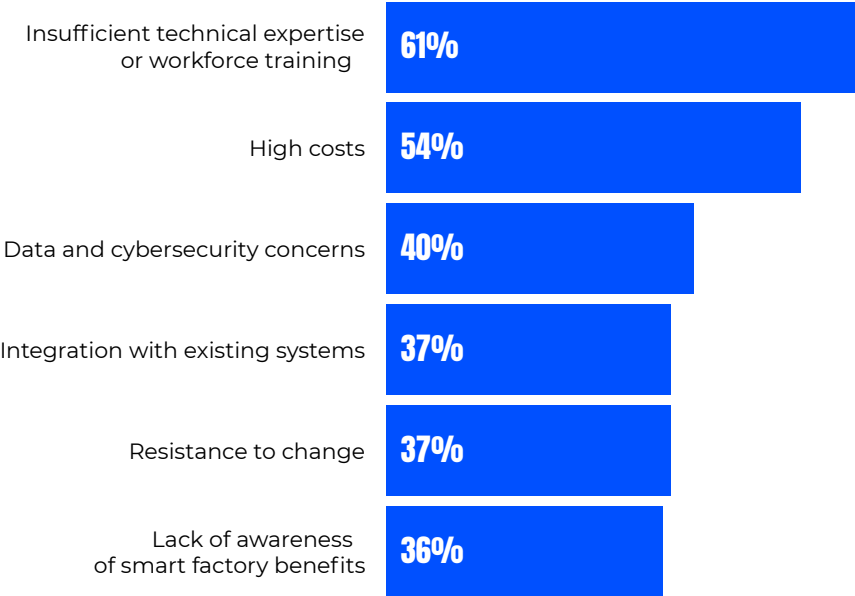
Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Have you encountered any barriers to implementing these technologies?



(If yes)
What are the main barriers to implementing these technologies?
(Select all that apply.)



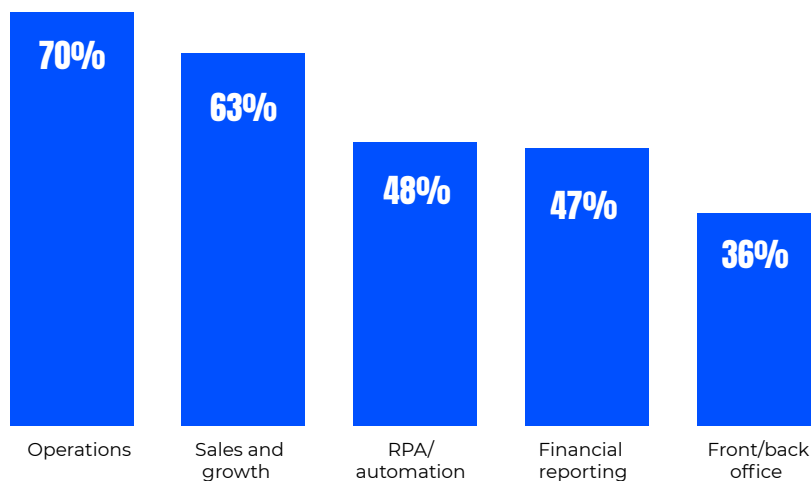
Appendix: The raw data

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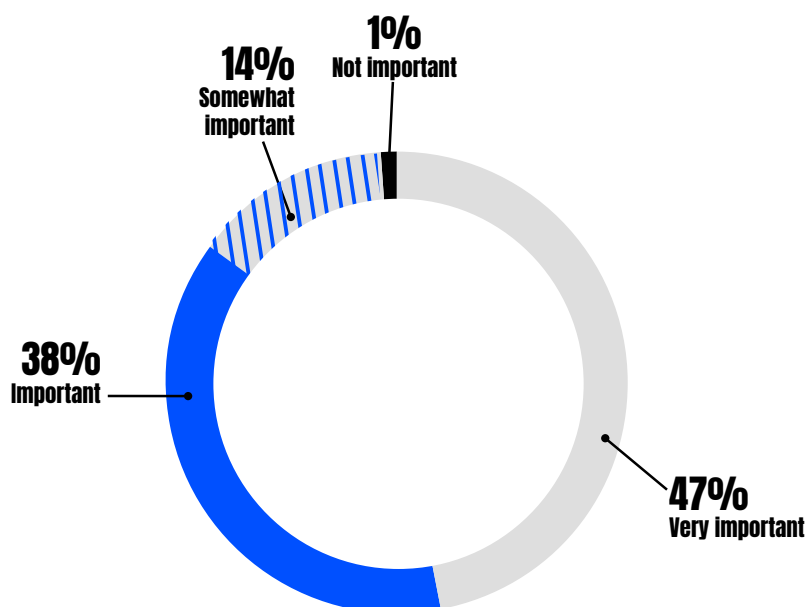
(For those that plan to invest in AI)

In which areas does your company plan to leverage AI?

(Select all that apply.)



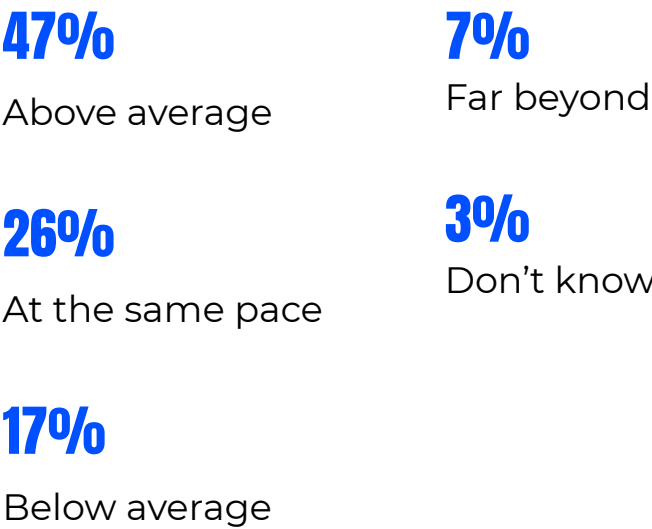
How important is it for the manufacturing industry to embrace digital transformation and technological advancement?



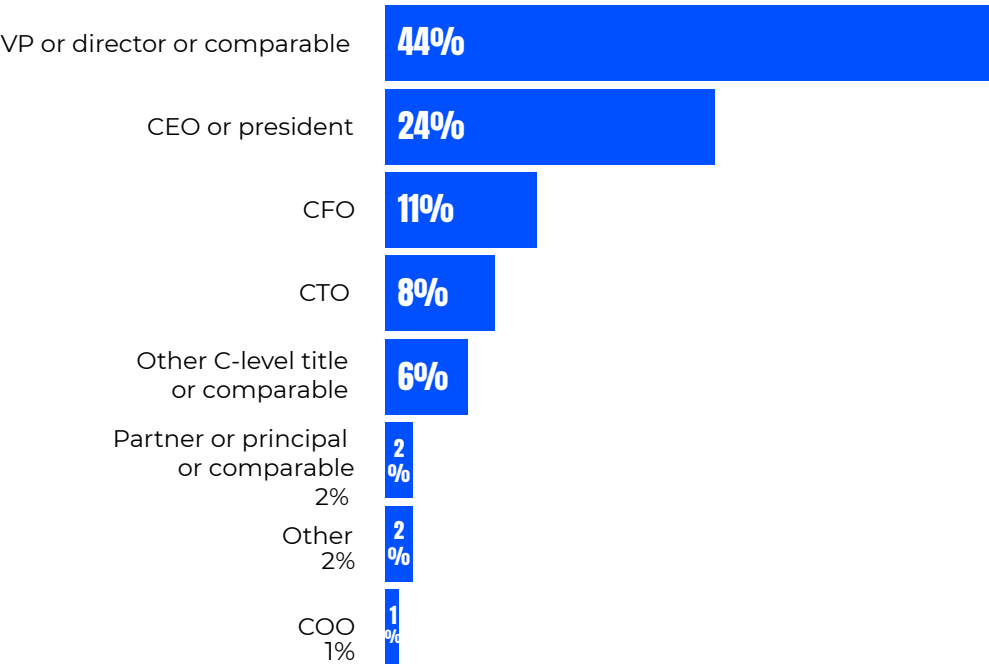
Appendix: The raw data

Percentages may not add up to 100% due to rounding.

How do you believe the rate of the manufacturing industry’s digital transformation compares to most other industries?



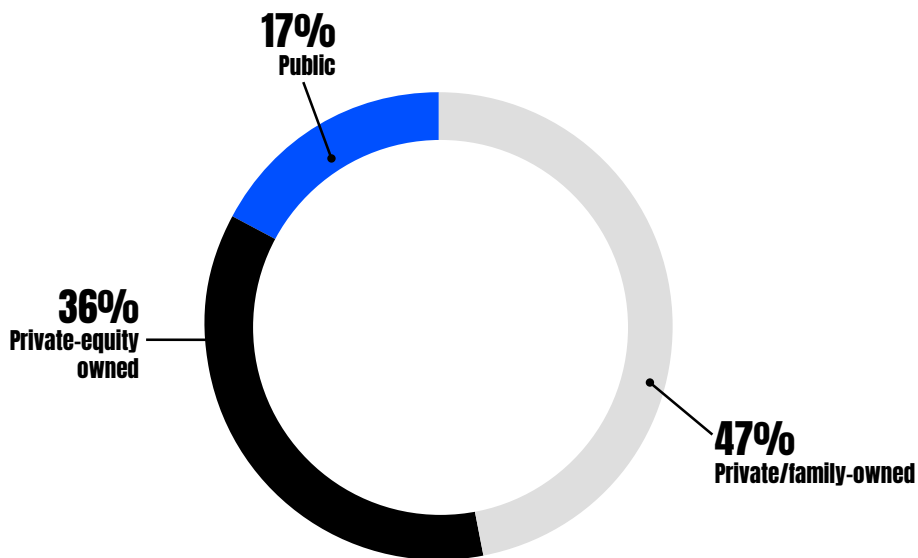
Which of the following best describes your title?



Appendix: The raw data

Percentages may not add up to 100% due to rounding.

Which best describes the ownership structure of your company?



What is the approximate annual revenue (US dollars) of your company?

29%
\$101 million to \$500 million

26%
\$10 million to \$50 million

26%
\$51 million to \$100 million

9%
\$501 million to \$1 billion

7%
Less than \$10 million

3%
More than \$1 billion

Appendix: The raw data

May not add to 100% due to rounding.

In which of the following manufacturing sectors does your company participate?

(Select all that apply.)

31% Machinery manufacturing	11% Textile mills	5% Paper manufacturing
20% Fabricated metal product manufacturing	10% Plastics and rubber products manufacturing	5% Leather and allied product manufacturing
15% Primary metal manufacturing	10% Computer and electronic product manufacturing	5% Textile product mills
15% Electrical equipment, appliance and component manufacturing	10% Apparel manufacturing	4% Wood product manufacturing
13% Miscellaneous manufacturing/other	8% Transportation equipment manufacturing	4% Printing and related support activities
12% Chemical manufacturing	7% Furniture and related product manufacturing	3% Petroleum and coal products manufacturing
11% Food manufacturing	6% Beverage and tobacco product manufacturing	2% Nonmetallic mineral product manufacturing

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