



MoldMaking Technology Top Shops 2022

Thank you for your interest in *Moldmaking Technology's* inaugural Top Shops survey designed specifically for mold makers. The survey incorporates input from mold makers like you to make sure the questions are relevant and the benchmarking data useful.

By fully answering questions about your plant/business, operations, technology, human resources and business strategy, you will receive a report customized for your shop, plotting your values relative to other shops including Top Shops.

Here's all you have to do to take advantage of the many benefits of MMT's Top Shops program:

1. **Fully complete the survey for maximum value.** It's in your best interest for benchmarking and scoring. It may take time to get some data - it's worth it. You may have reservations about answering certain questions. Don't worry, all responses will remain confidential.
2. **Provide your email address** to receive a report customized for your shop, showing where your shop is strong, on track, and has opportunities.
3. **Enter your contact info** and submit your completed survey by **April 30, 2022** if you want a chance to be profiled in a Fall issue of *Moldmaking Technology*.
4. **Select 'Submit Responses'** on the final page once you do not intend to return to the survey again. If you get interrupted while completing the survey, you may close and return to it using the same device as many times as you like until you select 'Submit Responses.'

Note that the *Moldmaking Technology's* Top Shops benchmarking survey can be completed one time, any time throughout 2022. The sooner you complete it, though, the sooner you'll be able to act on the results. Please note, if you want your shop to be considered for a Top Shops profile article in *Moldmaking Technology* magazine later in the year, you must submit your completed survey by **April 30, 2022**.

Click [here](#) to download a PDF of the survey if you want to review the questions before entering answers online. If you want to keep a record of your responses, print a copy of each page with your responses before selecting 'next' to advance to the next page/question.

If you have questions, please contact Jan Schafer, Director of Market Research, at jschafer@gardnerweb.com or 513-527-8952.



Before we get started...

Most questions refer to 'your shop,' and here's how we'd like you to think about it...

If your company has more than one location, please answer all survey questions in terms of the scope for which you have the most access to operations and performance data.

- That means in some cases, answers are for the total company, multiple locations combined.
- In other cases, answers are for one location only.
- Sometimes, different people submit Top Shops surveys for different locations of the same company.
- In a few instances, one person submits surveys for different locations of the same company (That scenario is an exception, but if it applies to you, please let us know as we'll have to adjust survey programming.)

If you are a captive shop, answer survey questions in the terms your shop uses to report metrics to the broader company. The questions are transparent as far as the information requested. Captive shops should provide the same information, though they may have different considerations or use tweaked formulas.

Most important is that you be consistent throughout the survey as far as the parameters associated with your responses .

Please also note that questions pertain to 2021 unless indicated otherwise.



Company & Contact Information

1. To receive a custom report of results, please fully complete the survey and provide your email address here:

2. To enter the 2022 Top Shops Honors Program, also provide the following contact information:

Name:

Job Title/Position:

Company:

Address:

City/Town:

State/Province:

ZIP/Postal Code:

Country:

Company Website:

Phone Number:



Profile Information

3. Which processes does your shop perform? *Select ALL that apply.*

- ☐ Machining
- ☐ Injection Molding
- ☐ Mold Making
- ☐ Additive Manufacturing
- ☐ Finishing
- ☐ Other (please specify)



Profile Information - Moldmaking

4. Approximately how many molds did your business produce in 2021?

Please enter a whole number only; no decimals, commas or other symbols.

5. Thinking of all the molds your shop produced in 2021, what was the maximum number of cavities produced?

- ☐ single or two-cavity
- ☐ 4-8 cavities
- ☐ 12-16 cavities
- ☐ 24-32 cavities
- ☐ more than 32 cavities

6. Thinking of the mold your shop produced the most in 2021, how many cavities did it have?

- ☐ single or two-cavity
- ☐ 4-8 cavities
- ☐ 12-16 cavities
- ☐ 24-32 cavities
- ☐ more than 32 cavities



Profile Information - Moldmaking

7. Which frame type(s) did your facility produce on a regular basis in 2021? *Select all that apply.*

- ☐ Single Face
- ☐ Stack Tool
- ☐ Cube
- ☐ 2-shot
- ☐ Other

8. Which frame size(s) did your facility produce on a regular basis in 2021? *Select all that apply.*

- | | |
|------------------------------|-------------------------------|
| ☐ <6" | ☐ 24" |
| ☐ 6" | ☐ 36" |
| ☐ 12" | ☐ 52" |
| ☐ 18" | ☐ >52" |

9. Which types of secondary (post machining) operations did your shop perform in 2021? *Select all that apply.*

- ☐ Cleaning
- ☐ Texturing
- ☐ Other (please specify)



Profile Information - Moldmaking

10. How were the molds your shop produced in 2021 split between full molds and spare molds (components only)?

Total must equal 100%

% Full molds

% Spare molds

11. How were the molds your shop produced in 2021 split between new tools and reworked/refurbished tools?

Total must equal 100%.

% New Tools

% Reworked/Refubished Tools

12. How were the molds your shop produced in 2021 split between wholly produced in North America vs. at least partly produced outside of North America?

Total must equal 100%.

% Wholly produced in North America

% At least partly produced outside North America



Profile Information

13. What is the tightest tolerance to which your shop machines parts on a regular basis? *Select the option that comes closest.*

- ☐ +/- 0.0001 inch
- ☐ +/- 0.0005 inch
- ☐ +/- 0.0010 inch
- ☐ +/- 0.0050 inch
- ☐ +/- 0.0100 inch

14. As of the end of 2021, about how many years had your shop been in business?

Please enter a whole number only; no decimals, commas or other symbols.

15. What is the total square footage of your entire building? Enter your best estimate if you do not have the measurements handy.

Please enter a whole number only; no decimals, commas or other symbols.

16. What category best describes your shop's relation to its customer base? *Select ONE response.*

- ☐ Contract/custom/job shop
- ☐ Captive shop (component of a larger company)

17. Which of the following, if any, describe your shop's ownership? *Select ALL that apply.*

- ☐ Family owned
- ☐ Minority owned
- ☐ Veteran owned
- ☐ Woman owned
- ☐ None of these



Profile Information

18. Of which trade associations was your shop a member in 2021? *Select ALL that apply.*

- ☐ American Mold Builders Association (AMBA)
- ☐ National Tooling & Machining Association (NTMA)
- ☐ Precision Machined Products Association (PMPA)
- ☐ Precision Metalforming Association (PMA)
- ☐ Technology & Manufacturing Association (TMA)
- ☐ Not a member of these associations

19. Which quality certifications did your shop hold in 2021? *Select ALL that apply.*

- ☐ ISO 9001:2015
- ☐ ISO 13485:2016
- ☐ IATF 16949:2016
- ☐ AS9100D
- ☐ Nadcap
- ☐ None of these

20. Which of the following applied to your shop in 2021? *Select ALL that apply.*

- ☐ ITAR registered
- ☐ RoHS compliant
- ☐ FDA registered
- ☐ Conflict Materials Disclosure
- ☐ CMMC (Cybersecurity Maturity Model Certification)
- ☐ None of these



Profile Information

21. Which of the following industries does your shop primarily serve? *Select ALL that apply.*

- | | |
|---|---|
| ☐ Aerospace, commercial | ☐ Industrial Motors/Hydraulics/Mechanical Components |
| ☐ Aerospace, general aviation | ☐ Machinery/Industrial Equipment |
| ☐ Appliances | ☐ Marine/Ship & Boat Building |
| ☐ Architectural/Infrastructure/Construction Components | ☐ Mass Transit |
| ☐ Automotive | ☐ Medical/Dental |
| ☐ Consumer Goods | ☐ Offroad/Construction/Agricultural Machinery |
| ☐ Defense/Government | ☐ Oil/Gas Field & Mining Machinery |
| ☐ Electronics/Computers | ☐ Packaging |
| ☐ Energy Storage (pressure vessels) | ☐ Power Generation (turbines, batteries) |
| ☐ Firearms/Ammunition | ☐ Pumps, Valves & Plumbing |
| ☐ Forming & Fabricating (non-automotive) | ☐ Sporting Goods |
| ☐ Furniture Manufacturing | ☐ Wind Energy |
| ☐ Hardware/Fasteners | ☐ Wire Goods/Pipes |
| ☐ Other (please specify) | |



Machining Technology

22. Which types of machining equipment does your shop use? *Select ALL that apply.*

- | | |
|---|--|
| ☐ Automatic screw machines (non-CNC) | ☐ Milling machines (non-CNC) |
| ☐ Broaching machines | ☐ Multi-spindle CNC |
| ☐ Drilling machines | ☐ Plasma or oxy-fuel CNC cutting machines |
| ☐ Flexible manufacturing systems (FMS) | ☐ Rotary transfer machines |
| ☐ Gear-cutting machines | ☐ Sawing machines |
| ☐ Grinding machines (for regrinding cutting tools) | ☐ Swiss-type lathes |
| ☐ Grinding machines (for workpieces) | ☐ Turn-mill/multitasking machines |
| ☐ Honing machines | ☐ Turning centers, horizontal CNC |
| ☐ Laser-cutting machines | ☐ Turning centers, vertical CNC |
| ☐ Lathes (non-CNC) | ☐ Twin-spindle CNC turning machines |
| ☐ Machining centers, horizontal | ☐ Waterjet machines |
| ☐ Machining centers, vertical | ☐ Wire, sinker, small-hole EDM |
| ☐ Other (please specify) | |

23. Which machining strategies does your shop use? *Select ALL that apply.*

- | | |
|---|---|
| ☐ Five-axis machining (full contouring) | ☐ Hard turning |
| ☐ Five-axis machining (positioning only) | ☐ High-speed machining |
| ☐ Four-axis machining (full contouring) | ☐ Lights-out or unattended machining |
| ☐ Four-axis machining (positioning only) | ☐ Micromachining |
| ☐ Hard milling | ☐ Prototyping |
| ☐ Other (please specify) | |



Machining Technology

24. Does your shop have 3D additive manufacturing/part printing capability?

- ☐ Yes, we have a 3D printer or additive manufacturing machine
- ☐ No, we do not have this capability



Machining Technology

25. Describe your shop's 3D printer. *Select ALL that apply.*

- ☐ Desktop 3D printer for plastic parts
- ☐ Standalone and/or industrial 3D printer for plastic parts
- ☐ Standalone additive manufacturing machine for metal parts
- ☐ Hybrid machine tool combining additive manufacturing and machining

26. What does your shop produce using 3D printing or additive manufacturing capability? *Select ALL that apply.*

- ☐ Look-and-feel prototypes to validate designs
- ☐ Functional prototypes to test parts prior to production
- ☐ Tooling and fixturing used internally
- ☐ Tooling and fixturing produced for customers
- ☐ Short-run initial production
- ☐ Full production of end-use parts
- ☐ Moldmaking and tooling (conformal tooling; inserts)
- ☐ Mold maintenance and repair

27. If your shop utilizes 3D printing or additive manufacturing capabilities in any other way(s), please describe the way(s) here. If not, please enter 'none.'



Machining Technology

28. Which tooling strategies does your shop use? *Select ALL that apply.*

- | | |
|---|---|
| ☐ Burnishing | ☐ Shopfloor tool vending systems |
| ☐ Carbide recycling program | ☐ Tool balancing |
| ☐ Coolant management system | ☐ Tool inventory management/usage tracking |
| ☐ Coolant chiller | ☐ Tool presetting |
| ☐ Custom/specialty tooling | ☐ Tool regrinding |
| ☐ High-pressure coolant delivery | ☐ Thread milling |
| ☐ Knurling | ☐ Thread rolling |
| ☐ Live tooling on lathes | ☐ Thread whirling |
| ☐ Minimum quantity lubrication | ☐ Through-tool coolant delivery |
| ☐ On-machine probing for tool breakage/measurement | ☐ None of these |
| ☐ Reaming | |

29. Which workholding and work handling equipment does your shop use? *Select ALL that apply.*

- | | |
|--|---|
| ☐ Bar feeders | ☐ Multiple workpiece fixturing |
| ☐ Bar pullers | ☐ Pallet changers |
| ☐ Face drivers | ☐ Quick-change devices |
| ☐ Hydraulic/pneumatic-actuated fixtures | ☐ Tombstones |
| ☐ Indexers/rotary tables | ☐ Vacuum chucks |
| ☐ Magnetic chucks | ☐ None of these |



Machining Technology

30. Which types of software does your shop use? *Select ALL that apply.*

- | | |
|---|--|
| ☐ CAD systems—2D | ☐ Mold flow analysis |
| ☐ CAD systems—3D | ☐ PLM software |
| ☐ CMM programming software | ☐ SPC/quality management software |
| ☐ ERP/MRP software | ☐ Toolpath simulation/verification software |
| ☐ CAM programming software | ☐ None of these |
| ☐ Job-estimating software | |

31. Which types of inspection equipment does your shop use? *Select ALL that apply.*

- | | |
|--|---|
| ☐ CT scanning | ☐ Portable measuring arms |
| ☐ CMM in quality department | ☐ Shopfloor CMMs |
| ☐ Laser trackers | ☐ Thermography/thermal imaging |
| ☐ Microscopes | ☐ Vision systems |
| ☐ On-machine probes for workpiece measurement | ☐ None of these |
| ☐ Optical comparators | |

32. Which types of ancillary equipment does your shop use? *Select ALL that apply.*

- | | |
|---|--|
| ☐ Ballbar calibration device | ☐ Machine mist control units |
| ☐ Chip handling equipment | ☐ Marking/engraving equipment |
| ☐ Heat treating equipment | ☐ Spotting presses |
| ☐ Machine condition monitoring (i.e. monitoring spindle, environmental conditions, etc.) | ☐ None of these |
| ☐ Machine connectivity (Ethernet, MTConnect) | |

33. Which additional processes did your shop perform in-house in 2021? *Select ALL that apply.*

☐

Plating

☐

Passivation

☐

Anodizing

☐

Chem film

☐

Liquid coating

☐

Composites fabricating

☐

Powder coating

☐

Plastics processing

☐

Electrocoating

☐

Polishing

☐

Black oxide

☐

Other (please specify)

☐

No additional processes performed



Machining Technology

34. Which metallic materials does your shop machine? *Select ALL that apply.*

- | | |
|--|---|
| ☐ Aluminum | ☐ High-temp alloys (not titanium, e.g. Inconel, Hastelloy, Waspaloy, etc.) |
| ☐ Brass | ☐ Mild steels |
| ☐ Bronze | ☐ Stainless steels |
| ☐ Cast iron | ☐ Titanium |
| ☐ Compacted graphite iron | ☐ Tool steel |
| ☐ Copper | |
| ☐ Other (please specify) | |

☐ None

35. Which non-metallic materials does your shop machine? *Select ALL that apply.*

- | | |
|---|---|
| ☐ Carbon-fiber-reinforced plastic (CFRP) | ☐ Medical-grade plastics |
| ☐ Ceramic | ☐ Wood |
| ☐ General plastics | |
| ☐ Other (please specify) | |

☐ None



Machining Technology

Please read the instructions at each question for the accepted format for responses. If you receive an error message, the format may be off or your value is outside of the set reasonable range. If both are correct, you may leave it blank.

36. How many CNC machine tools did your shop have in production (non-tool room) in 2021?

Please enter a whole number only; no decimals, commas or other symbols.

37. What is the average age (in years) of the CNC machine tools currently in use on your shop floor?

Please enter a whole number only; no decimals, commas or other symbols.

38. What was your shop's average capacity utilization in 2021?

There is no single formula that fits how every shop figures capacity utilization. For this question, please think about what you consider to be at full capacity for your shop. Then enter as a percentage the degree to which your shop's capacity was typically in use relative to being at full capacity in 2021.

You may enter a decimal, but no other signs or symbols.

Example: If your shop was typically using capacity that represented about 85% of full capacity in 2021, meaning your shop typically had 15% capacity available, you would enter 85 for capacity utilization.



Shopfloor Practices & Performance

39. Which of the following practices and improvement methodologies does your shop use? *Select ALL that apply OR the last option only.*

- | | |
|---|--|
| ☐ 5S workplace organization | ☐ Lean manufacturing |
| ☐ Benchmarking | ☐ Overall Equipment Effectiveness (OEE) monitoring and analysis |
| ☐ Cellular manufacturing | ☐ Poka yoke (error prevention) |
| ☐ Continuous improvement program | ☐ Six Sigma |
| ☐ Customer surveys | ☐ Theory of constraints |
| ☐ Daily layered accountability | ☐ Total productive maintenance |
| ☐ Design of experiments | ☐ Total quality management |
| ☐ Just-in-time movement of materials | ☐ Value-stream mapping |
| ☐ Kaizen events/blitzes | ☐ No formal methodology |
| ☐ Kanban and pull systems | |

40. Does your shop use robots to perform part loading/unloading for any of your machine tools?

- ☐ Yes
- ☐ No



Shopfloor Practices & Performance

41. Are any of the robots your shop uses collaborative models (using sensor technology to work safely alongside humans without traditional fencing, guarding, etc.)?

☐ Yes

☐ No



Shopfloor Practices & Performance

Please read the instructions at each question for the accepted format for responses. If you receive an error message, the format may be off or your value is outside of the set reasonable range. If both are correct, you may leave it blank.

42. What was your shop's order lead time in 2021, defined as the average number of days from receipt of an order to delivery to customer.

You may enter a decimal, but no other signs or symbols.

Example: For 6 days, you would enter 6. For 6 1/2 days, you would enter 6.5.

43. What was your shop's on-time delivery rate in 2021, defined as the percentage of goods delivered on the timing committed. Enter your number without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: For 80%, you would enter 80. For 80.5%, you would enter 80.5.

44. What was your shop's average setup time in 2021, defined as the time, in minutes, between the completion of the last good piece of one run and the first good piece of the next run.

Please enter a whole number only; no decimals, commas or other symbols.

Example: If the last good piece of Run A ends at 11:45, and the first good piece of Run B ends at 12:10, you would enter 25.

45. What was your shop's finished product first-pass quality yield in 2021, defined as the percentage of product that passed inspection on first attempt; i.e. no re-work was required. Enter your number without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: For 80%, you would enter 80. For 80.5%, you would enter 80.5.



Shopfloor Practices & Performance

46. What was your shop's scrap and rework COST percentage, defined as the **cost** of 2021 scrapped or reworked materials as a percentage of 2021 total dollar sales. Enter your number between 0 and 100 without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: If \$550 worth of materials were scrapped and sales were \$50,000, you would enter 1.1.

47. What was your shop's scrap and rework UNIT percentage, defined as the **number** of 2021 scrapped or reworked parts as a percentage of 2021 total parts produced. Enter your number between 0 and 100 without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: If 83 parts were scrapped or reworked, and 1000 parts were produced, you would enter 8.3.

48. What was your shop's machine usage in 2021, defined as the average number of hours machines are in production in a 24-hour day.

You may enter a decimal, but no other signs or symbols. Your answer should be between 1 and 24.

Example: For 8 hours, you would enter 8. For 8 1/2 hours, you would enter 8.5.

49. What was your shop's spindle utilization time in 2021, defined as the average amount of in-cut time as a percentage of the average machine total up-time. Enter your number without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: If total machine up-time is 22 on average, and average in-cut time is 17, you would enter 77.



Shopfloor Practices & Performance

50. Installing a Web-enabled, shop-wide machine monitoring system has been suggested as the first step towards data-driven manufacturing/Industrial Internet of Things concepts. Please select the statement that best describes your shop regarding machine monitoring. *Select ONE only.*

- ☐ We have a machine monitoring system in place for some or all machine tools.
- ☐ We plan to install a machine monitoring system.
- ☐ We do not plan to install a machine monitoring system.



Shopfloor Practices & Performance

51. Briefly describe your shop's machine monitoring system. *Please be specific.*

52. When do you expect to begin installation of a machine monitoring system at your shop? *Select ONE only.*

- ☐ First half of this year
- ☐ Second half of this year
- ☐ Next year or later



Shopfloor Practices & Performance

53. Briefly explain one new technology, machining strategy or strategic initiative that has been most influential in contributing to the overall success of your shop in recent years. *Please be specific.*



Business Strategy & Performance

54. Which of the following supply chain practices does your shop use? *Select ALL that apply.*

- | | |
|--|---|
| ☐ Accessing/using customer forecasts | ☐ Just-in-time deliveries to customers |
| ☐ Certification of major suppliers | ☐ Sharing forecasts with suppliers |
| ☐ Collaborative design/DFM with customers | ☐ Inventory managed by suppliers |
| ☐ Collaborative design/DFM with suppliers | ☐ Inventory managed for customers |
| ☐ Customer satisfaction surveys | ☐ None of these |
| ☐ Just-in-time deliveries from suppliers | |

55. Which of the following sales/marketing tools does your shop use? *Select ALL that apply.*

- | | |
|---|--|
| ☐ Advertising - online | ☐ Industry awards/recognition |
| ☐ Advertising - print (e.g. magazines) | ☐ Online keyword advertising (e.g. Google) |
| ☐ Blogs | ☐ Online videos |
| ☐ Brochures/catalogs | ☐ Open house |
| ☐ Company website | ☐ Sales personnel |
| ☐ Customer tours of your shop | ☐ Social media (Facebook, Twitter, YouTube, etc.) |
| ☐ Directory listing - online | ☐ Trade shows/events |
| ☐ Directory listing - print | ☐ None of these |
| ☐ Email promotions | |

56. Please select the social media channels your shop actively used for any purpose in 2021. *Select ALL that apply.*

- | | |
|------------------------------------|--|
| ☐ Facebook | ☐ TikTok |
| ☐ Twitter | ☐ YouTube |
| ☐ LinkedIn | ☐ Did not actively use social media in 2021 |
| ☐ Instagram | |



Business Strategy & Performance

Please read the instructions at each question for the accepted format for responses. If you receive an error message, the format may be off or your value is outside of the set reasonable range. If both are correct, you may leave it blank.

57. How many active customers did your shop have in 2021?

Please enter a whole number only; no decimals, commas or other symbols.

58. What was your shop's customer retention rate for 2021? This is the number of your shop's customers in 2021, who were also customers in 2020, as a percentage of your 2020 total customer base. Enter your number without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: If you had 50 customers in 2021 who were also customers in 2020, and a total of 60 customers in 2020, your customer retention rate would be 83%, and you would enter 83.



Business Strategy & Performance

59. About **how many** quotes for new parts did your facility deliver in one month, on average, during 2021?

60. About **how long** from the time a request was received in 2021 did it typically take your facility to deliver a quote for new parts?

- ☐ 12 hours or less
- ☐ 24 hours
- ☐ 48 hours
- ☐ 72 hours
- ☐ More than 72 hours
- ☐ Not sure

61. About what **percentage** of quotes for new parts did your facility win in 2021?

You may enter a decimal, but no other signs or symbols.

Example: If you quoted 80 new jobs in 2021 and booked 40, you would enter 50. You may enter decimals but no other signs or symbols.

62. As best as you can say, was the pricing your facility quoted typically higher or lower than the pricing competition quoted for the same new parts in 2021?

- ☐ Higher
- ☐ Lower
- ☐ Don't know



Business Strategy & Performance

63. By about how much was your facility's pricing for new parts different than the competition's in 2021?

- ☐ less than 5%
- ☐ 5% - 10%
- ☐ 11% - 15%
- ☐ 16% - 20%
- ☐ more than 20%
- ☐ Don't know

64. Which tools/formats did your facility typically use for estimating new parts in 2021?

- ☐ Paper
- ☐ Excel
- ☐ Job Quoting Software
- ☐ ERP System
- ☐ Other (please specify)

- ☐ Don't know

65. During 2021, was your facility part of any online sourcing services that match buyers with qualified suppliers? Examples include Xometry, Fictiv, Paperless Parts.

- ☐ Yes
- ☐ No
- ☐ Not sure



Business Strategy & Performance

66. What were your shop's investments, in US dollars, in the following areas in 2021?

Please enter whole numbers only; decimals, commas, other symbols, and words are not accepted.

Enter '0' if your shop made no investment in a category.

Capital equipment (not tooling)

Tooling

Employee costs (all wages, benefits, etc.)

Materials and components

67. Does your shop lease or own its manufacturing facility?

☐ Lease

☐ Own

☐ Both



Business Strategy & Performance

Reminder, it is in your shop's best interest from benchmarking and scoring standpoints to answer all questions.

68. Please provide your shop's total revenue in US dollars for 2021. Providing your shop's revenue confidentially enables us to perform useful calculations on your behalf.

Please enter a whole number only; no decimals, commas, or other symbols.

69. Please provide your shop's 2021 gross sales per number of machines in US dollars.

You may enter a decimal, but no other signs or symbols.

Example: If your shop's 2021 gross sales were \$5000 and you have 2 machines, you would enter 2500.

70. Please provide your shop's 2021 gross sales per number of total employees in US dollars.

You may enter a decimal, but no other signs or symbols.

Example: If your shop's 2021 gross sales were \$5000 and you have a total of 20 employees, you would enter 250.

71. Were any capital investments made in your shop in 2021? *Select ONE only.*

☐ Yes

☐ No

☐ Not sure



Business Strategy & Performance

72. Please provide your shop's 2021 capital equipment expenditure as a percentage of gross sales. Enter your number without a % sign.

Formula = $[(2021 \text{ cap equip exp} / 2021 \text{ gross sales}) * 100]$

Example: If your shop's capital equipment expenditure was \$500 and your gross sales were \$5000, you would enter 10.

73. What, if any, type(s) of machining or manufacturing capital equipment does your shop plan to purchase in 2022? If none, please enter 'none' here. *Please be specific.*



Business Strategy & Performance

74. Please provide your shop's percent change in annual sales from 2020 to 2021, using the following formula. Round to the nearest whole number, using a minus sign if necessary.

Formula = $[(2021 \text{ gross sales} - 2020 \text{ gross sales}) / 2020 \text{ gross sales}] * 100$

Example: If your 2021 sales were \$5000 and your 2020 sales were \$4000, you would enter 25.

75. Please provide your shop's 2021 overall profit margin percentage, defined as your shop's net income (after tax) relative to gross sales, rounded to the nearest whole number. Include a minus sign if your number is negative.

Formula = $[(2021 \text{ net income} / 2021 \text{ gross sales}) * 100]$

Example: If your 2021 net income was negative \$300 and your gross sales were \$5000, you would enter -6.

76. Please provide your shop's 2021 **ROA**, defined as your shop's net income (after tax) relative to total assets, rounded to the nearest whole number. Include a minus sign if your number is negative.

Formula = $[(2021 \text{ net income} / 2021 \text{ total assets}) * 100]$

Example: If your 2021 net income was negative \$300 and your total assets were \$5000, you would enter -6.



Business Strategy & Performance

77. Below are business practices that your shop may or may not apply. Please select all that you consider to have been in place at your shop in 2021.

- | | |
|--|--|
| ☐ Business metric goal setting | ☐ Steering board/committee including outside membership |
| ☐ Business strategy development | ☐ Family business/succession planning |
| ☐ Regularly scheduled management/department head meetings | ☐ Regular peer group participation |
| ☐ Regularly scheduled, formal review of the state of the business | ☐ None of these |



Human Resources

78. Which human resource practices/programs did your shop use in 2021? *Select ALL that apply.*

- | | |
|--|--|
| ☐ 401(k) plan | ☐ Formal safety/health program |
| ☐ 401(k) matching | ☐ Leader/supervisor development |
| ☐ Annual review and raise program | ☐ Paid medical benefits |
| ☐ Apprenticeship program | ☐ Paid holiday/vacation |
| ☐ Bonus plan | ☐ Profit- or revenue-sharing plan |
| ☐ Education reimbursements | ☐ Teaming/team-building practices |
| ☐ Employee ownership options (ESOP) | |
| ☐ Formal employee training programs | |
| ☐ Other (please specify) | |

- ☐ No HR programs in place

79. Which statement best describes your shop as far as skills relative to needs in 2021? *Select ONE only.*

- ☐ We experienced a shortage of skills needed and took action.
- ☐ We experienced a shortage of skills needed but did not take action.
- ☐ We did not experience a shortage of skills needed.



Human Resources

80. Which actions did your shop take in 2021 to address a shortage of skills your shop needs? *Select ALL that apply.*

- | | |
|--|--|
| ☐ Advertising (e.g. billboard, radio, TV) | ☐ Outreach program at local schools |
| ☐ Attendance incentives | ☐ Outreach program to broader populations (e.g. completed rehab; released from incarceration) |
| ☐ Cross training | ☐ Provide, pay for, or subsidize transportation to/from facility |
| ☐ Flexible schedules | ☐ Rewards for referrals |
| ☐ 'Get paid to learn/train' program | ☐ Signing incentives |
| ☐ Increased automation | ☐ Temp agency/Temp-to-Perm hiring |
| ☐ Loosened hiring criteria | ☐ Weekend only shifts |
| ☐ Mentor program | |
| ☐ Other (please specify) | |



Human Resources

Please read the instructions at each question for the accepted format for responses. If you receive an error message, the format may be off or your value is outside of the set reasonable range. If both are correct, you may leave it blank.

81. How many total people did your shop employ in 2021 at the location(s) to which your other answers apply? This includes shopfloor, front office, maintenance, etc.

Please enter a number only; no decimals, commas or other symbols.

82. How many employees were directly involved in manufacturing in 2021 at the location(s) to which your other answers apply?

Please enter a number only; no decimals, commas or other symbols.

83. What was your shop's annual labor turnover rate of shopfloor employees in 2021? This is the number of voluntary plus involuntary separations of shopfloor employees as a percentage of the total usual number of shopfloor staff. Enter your number between 0 and 100 without a % sign.

You may enter a decimal, but no other signs or symbols.

Example: If 6 shopfloor employees left in 2021 and your usual shopfloor staff totals 30, you would enter 20.



Human Resources

84. What is the average age of your shopfloor employees?

Please enter a number only; no decimals, commas or other symbols.

85. What is the average years of industry experience of your shopfloor employees?

Please enter a number only; no decimals, commas or other symbols.

86. How many shifts per day did your shop typically run in 2021?

Please enter a number only; no decimals commas or other symbols.



Human Resources

87. What was the average hourly wage rate in US dollars for non-management machine operators in 2021, excluding overtime?

Please enter a number. You may enter a decimal, but no other signs or symbols.

88. What was the average hourly wage rate in US dollars for non-management set-up personnel in 2021, excluding overtime?

Please enter a number. You may enter a decimal, but no other signs or symbols.

89. What was the average hourly wage rate in US dollars for non-management CAM programmers in 2021, excluding overtime?

Please enter a number. You may enter a decimal, but no other signs or symbols.

90. Did your shop have any accident incidents in 2021?

☐ Yes

☐ No



Human Resources

91. What was your shop's annual accident incident rate for shop floor employees in 2021? This is the number of shop floor accident incidents as a percentage of the total usual number of shop floor staff. Please enter your number between 0 and 100 without a % sign.

You may enter decimals but no other signs or symbols.

Example: if you had 2 accident incidents in 2021 and your usual shop floor staff totals 30, you would enter 6.67.

92. Please select the rating that best describes your shop's practice in 2021 in each area listed below.

	Did not have written guidelines	Had written guidelines, but they were not well known	Had written guidelines, and they were broadly known
Hazardous material handling	☐	☐	☐
Heavy equipment operation	☐	☐	☐
Personal protective equipment usage	☐	☐	☐
Safety training for new employees	☐	☐	☐
Safety training refreshers/updates for tenured employees	☐	☐	☐
Safety incident reporting	☐	☐	☐

93. Which of the following designated safety roles did your shop have in place in 2021?

- ☐ Safety manager
- ☐ Safety committee
- ☐ Neither of these

94. On average, about how many hours of operations training did **each** hourly paid, non-management shop floor employee receive in 2021? *Select ONE response.*

- ☐ less than 8 hours
- ☐ 8-20 hours
- ☐ 21-40 hours
- ☐ more than 40 hours



Almost finished!

This is the final page of the survey. Please double-check your responses for accuracy and completeness before you continue.

Once you click **Submit Responses** on this page, you will be taken to the *Modern Machine Shop* website. Your survey will be locked and submitted and you will not be able to change any of your answers. You may close and return to your survey to make changes as many times as you like so long as you use the same browser on the same device.