

2023 AUTOMATION STUDY



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Introduction & Methodology

Background

- This research was conducted by Peerless Research Group on behalf of **Modern Materials Handling** to assess usage and purchase intentions for automation systems and solutions used in warehouse and distribution center operations. Where possible, results in this report trend to the 2021 and 2022 waves.
- Specific areas of investigation include:
 - Factors and features considered important when evaluating automation systems and solutions for possible purchase
 - The impact of coronavirus on upcoming purchase plans
 - The extent to which specific warehouse processes are automated and areas that operations will be looking to improve during the next two years
 - Order fulfillment activities currently running and tasks companies will look to improve/implement
 - Usage and implementation/upgrade plans for equipment used in warehouses and DCs:
 - Conventional equipment
 - Automated equipment
 - Data collection technologies
 - Supply Chain Execution solutions
 - Supply Chain Management solutions
 - Estimated spend on materials handling equipment and solutions for 2023
 - Buying channels/sources use for order fulfillment solutions and for purchasing equipment replacement parts
 - Respondent and company demographics

Methodology

- Survey method: E-mail
- Incentive: \$100 Amazon e-gift card
- Respondent criteria: For personally being involved in the purchase decision process for materials handling solutions for their company
- Field and Response:

	Field	# of usable returns	+/- Sampling variation at 90% confidence level
2021	November 2020	123	7.4%
2022	November 2021	117	7.6%
2023	November 2022	150	6.7%



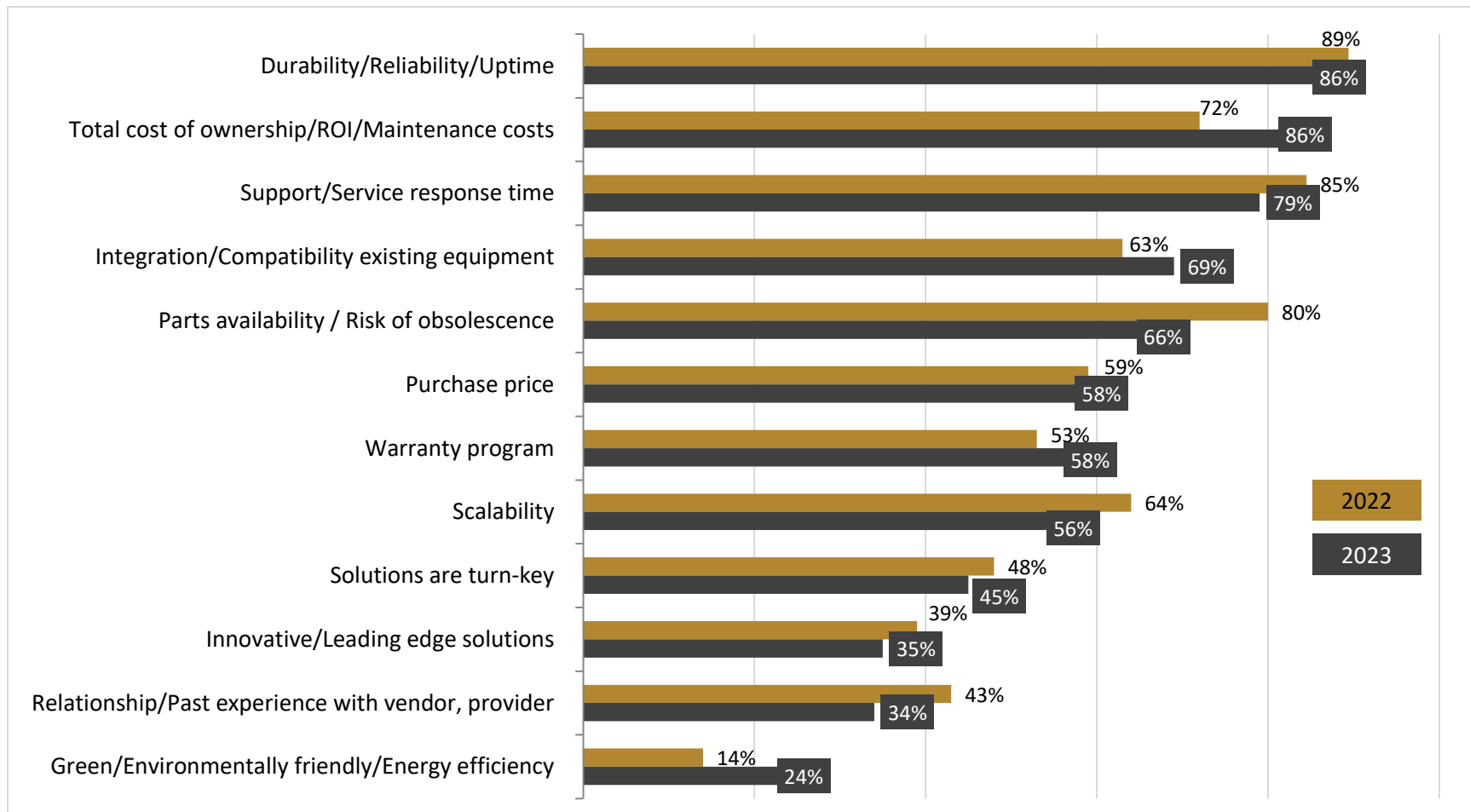
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How important are each of the following when evaluating automation systems and solutions for possible purchase?

(Summary: Rated Very important -- 2023 v. 2022)



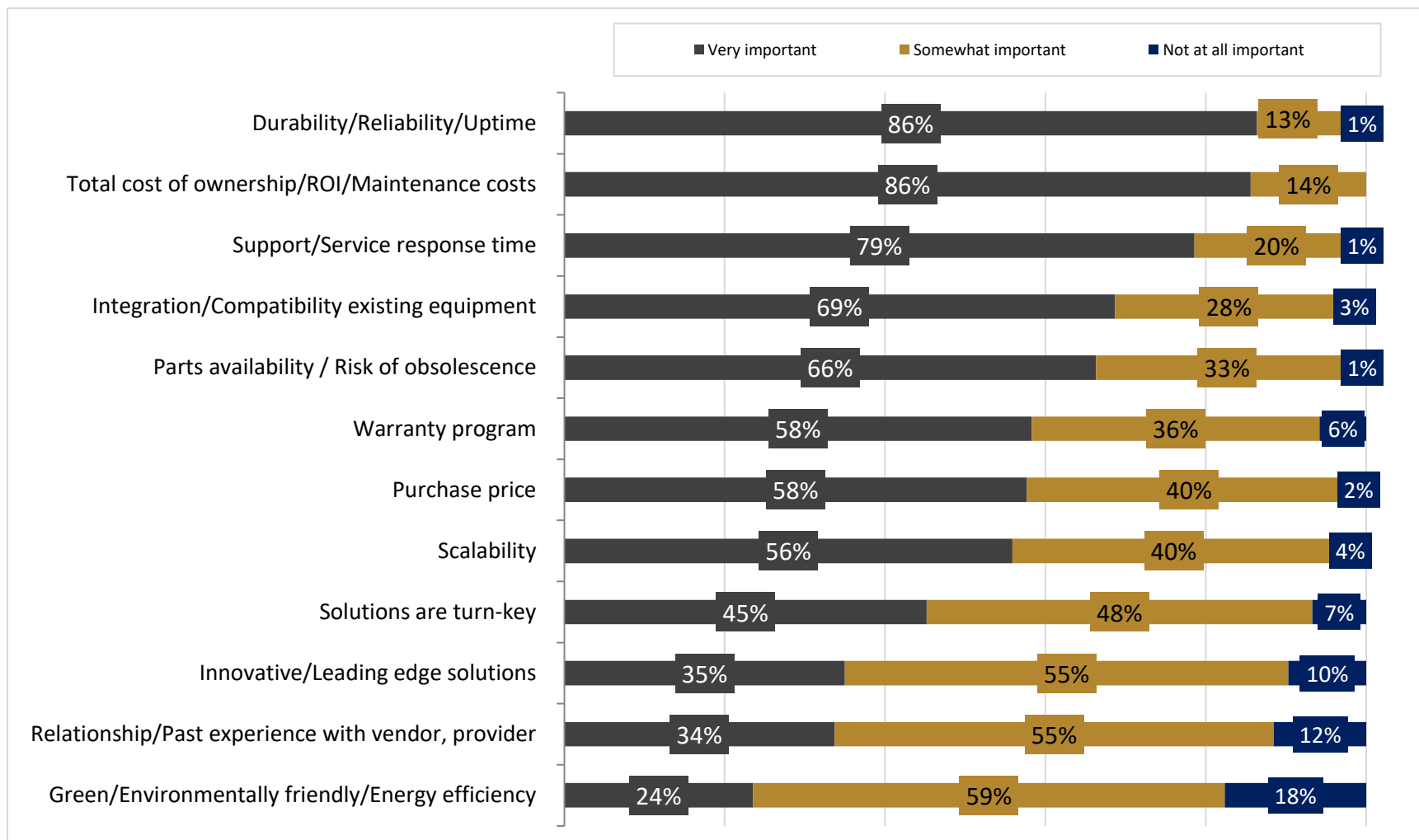


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How important are each of the following when evaluating automation systems and solutions for possible purchase?



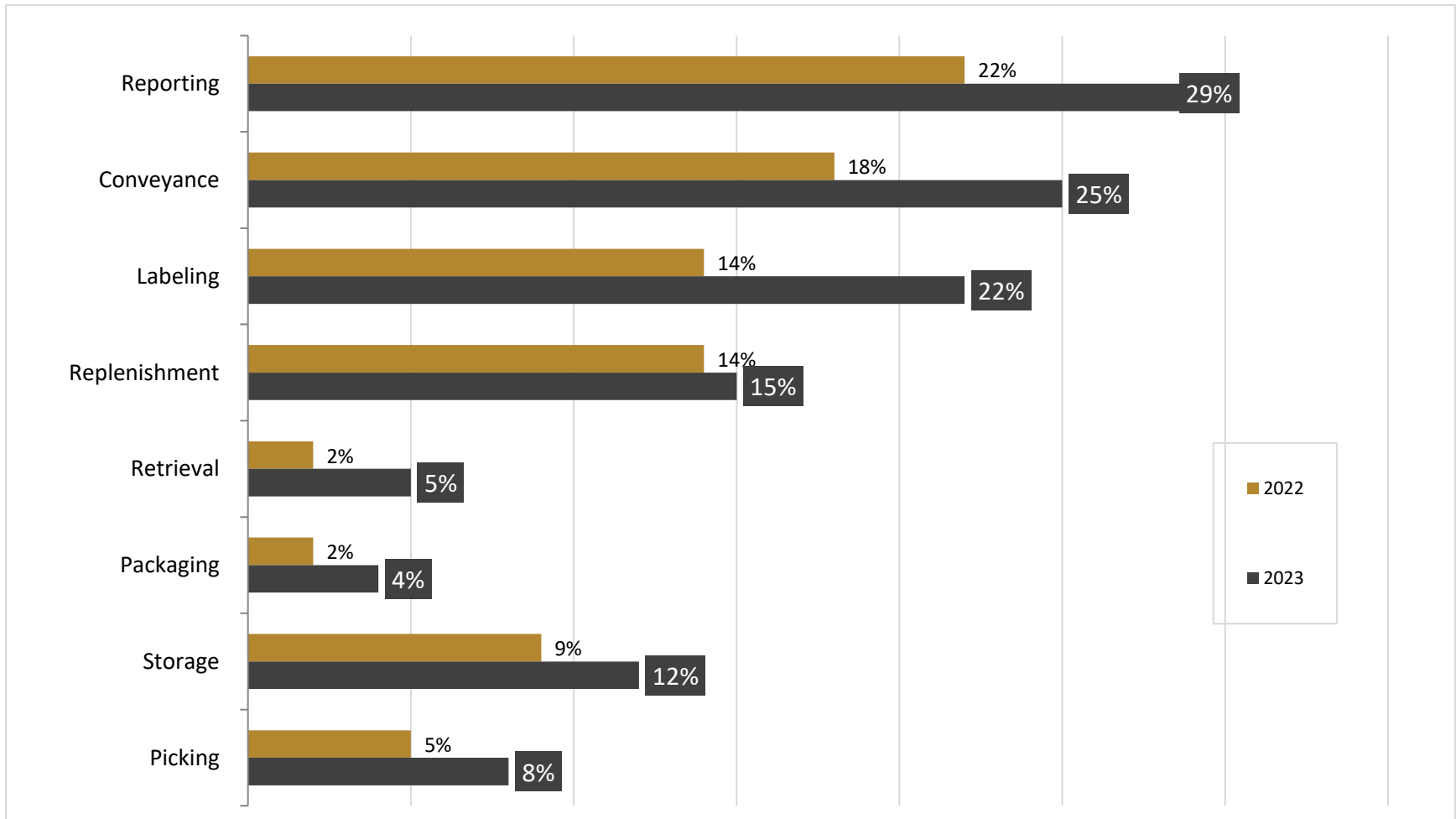


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To what extent is each process automated? (Summary: Fully automated-- 2023 v. 2022)



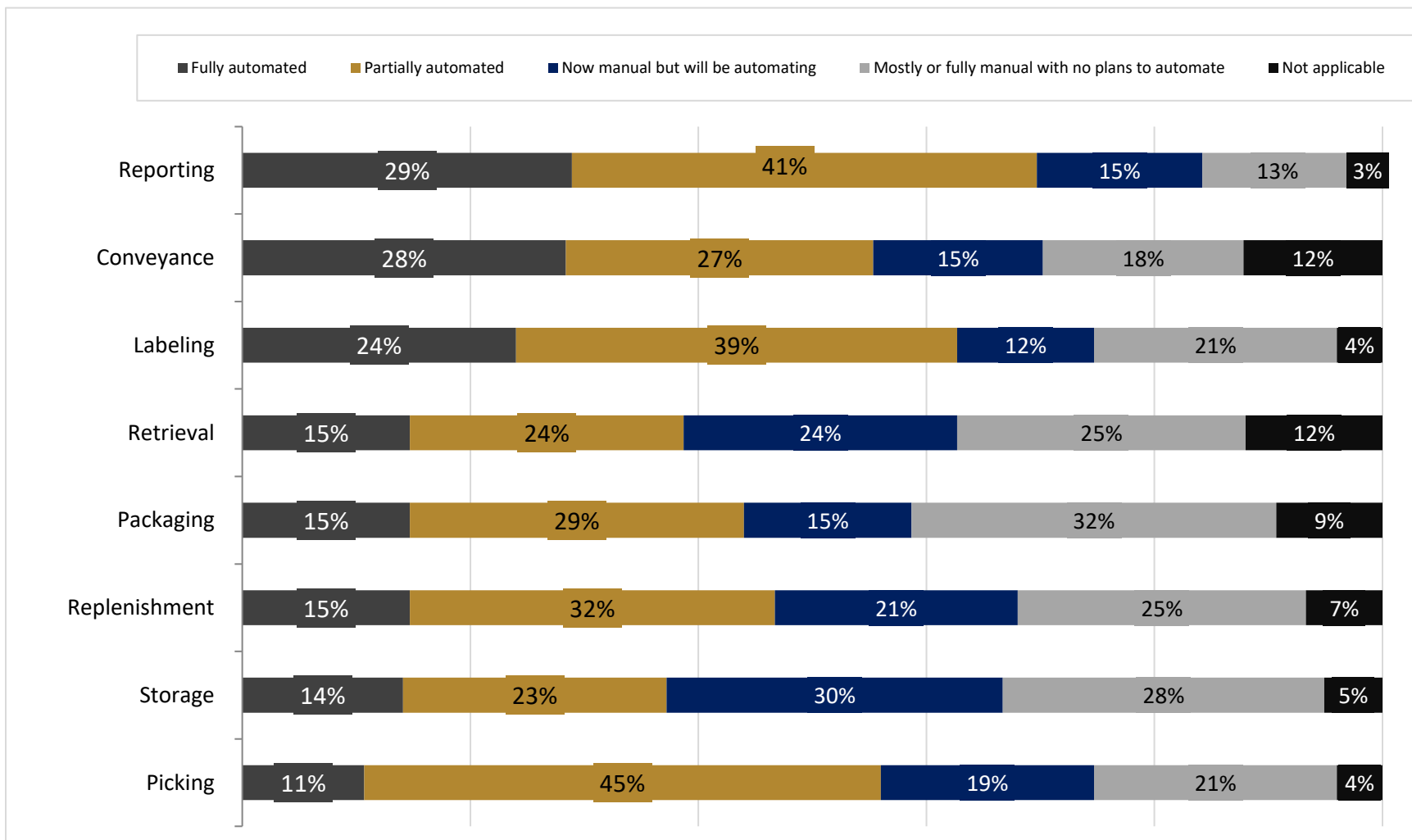


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To what extent is each process automated?



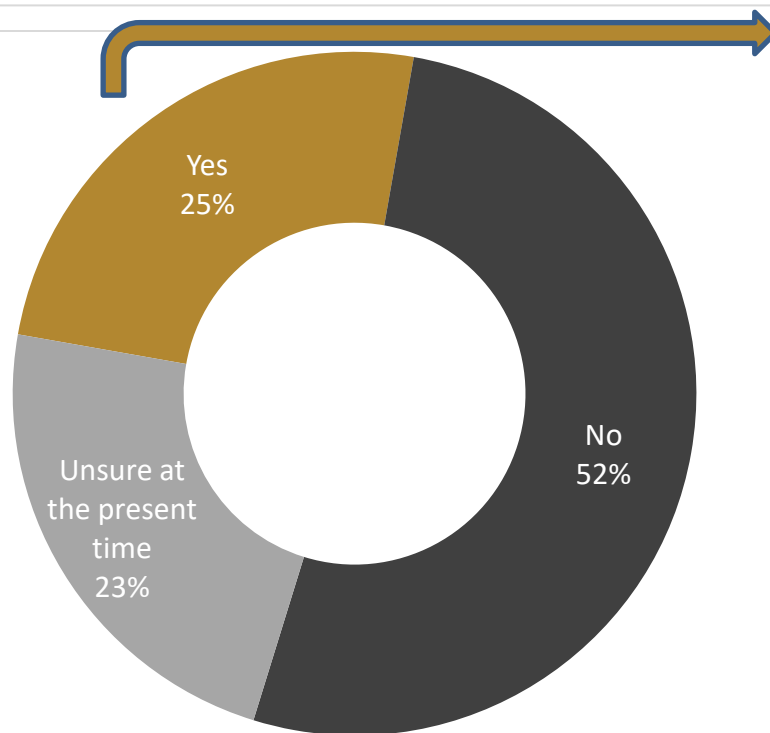


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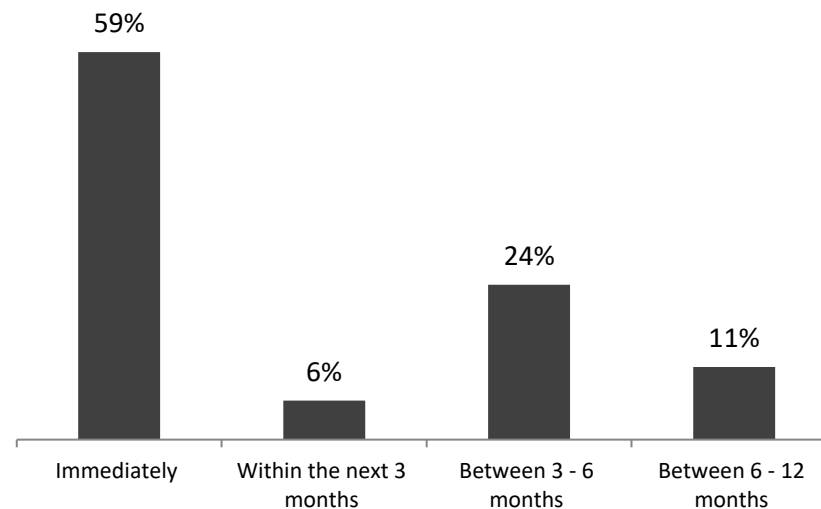
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In light of the coronavirus outbreak, is your company changing its purchase plans for warehouse and DC solutions?



When do you see changes to your purchase plans being made?



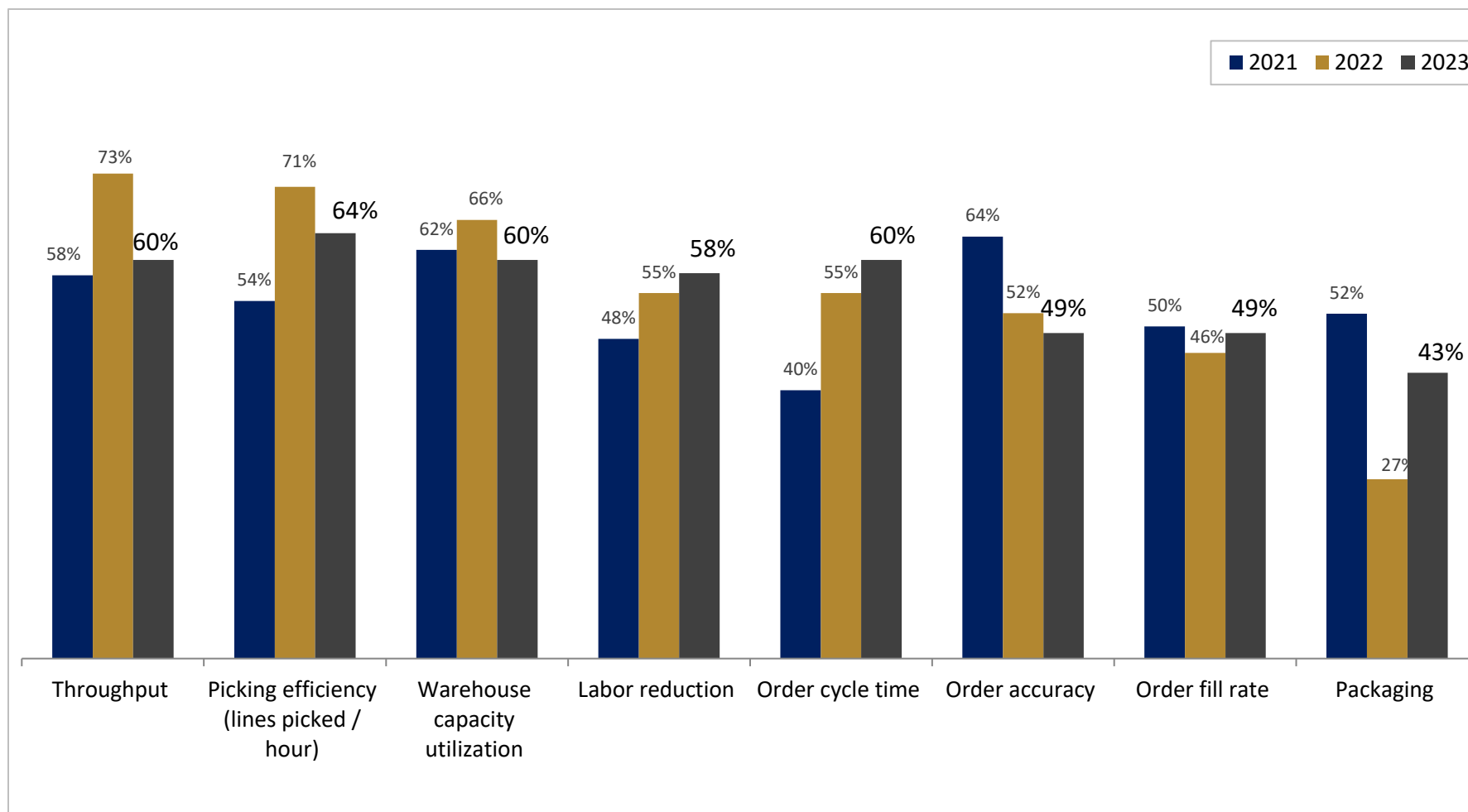


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During the next 2 years, what areas are you looking to improve in your warehouse/DC operations?



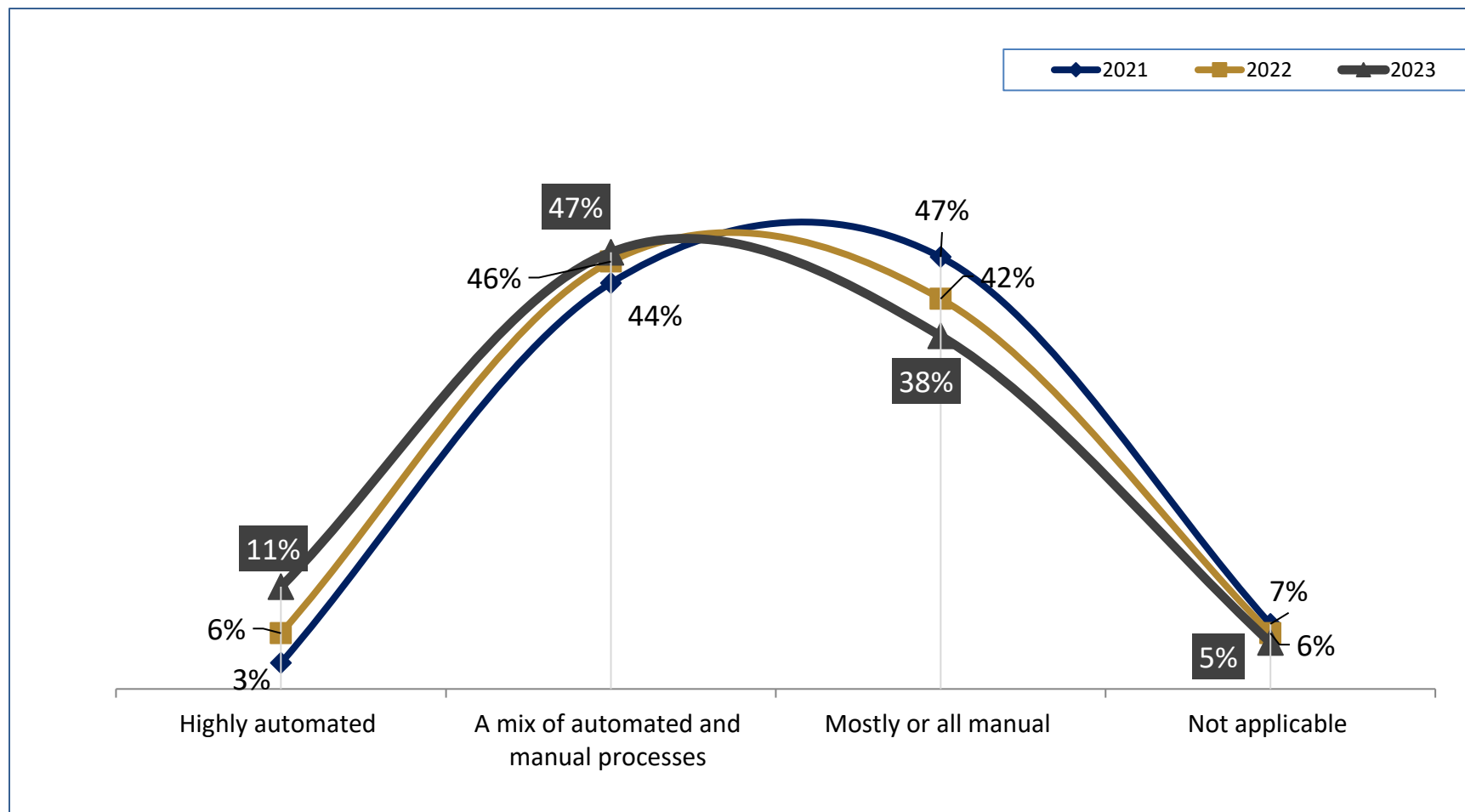


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How would you best describe your order fulfillment operations (picking and packaging)?





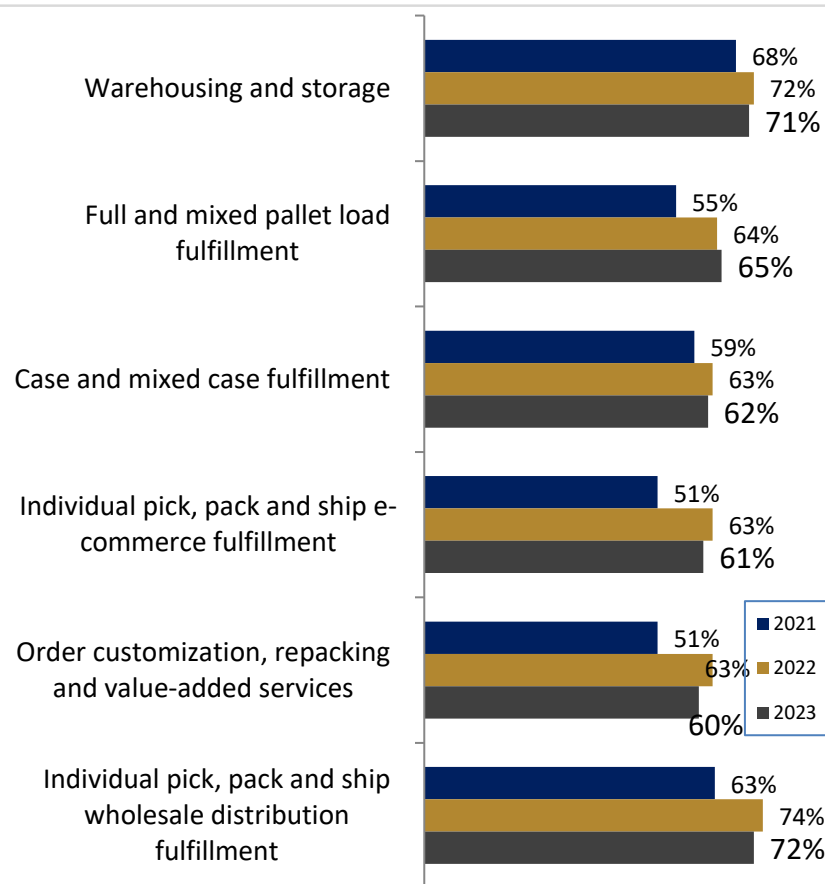
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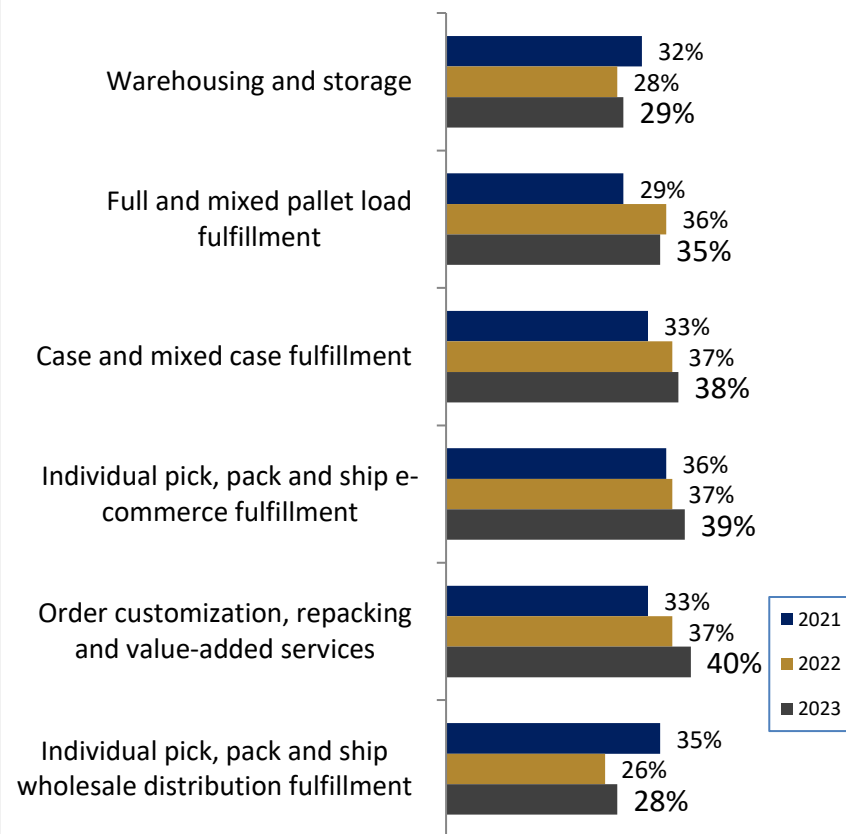
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**Which order fulfillment activities are you currently employing?
And, which are you looking to implement or improve over the next 24 months?**

In use



Plan to implement/improve





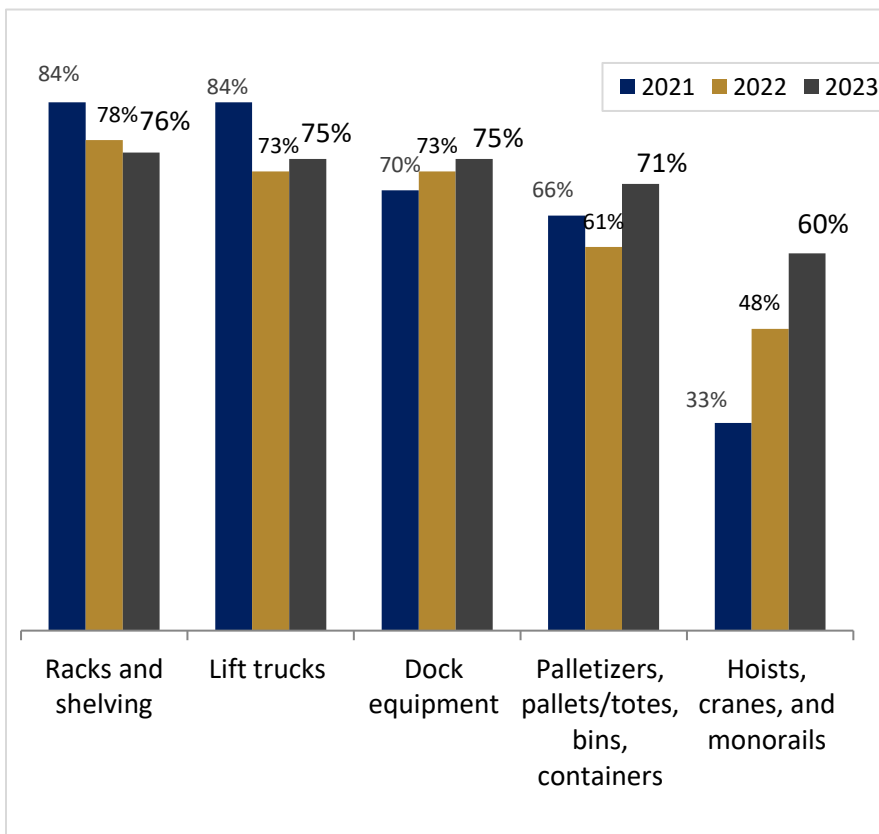
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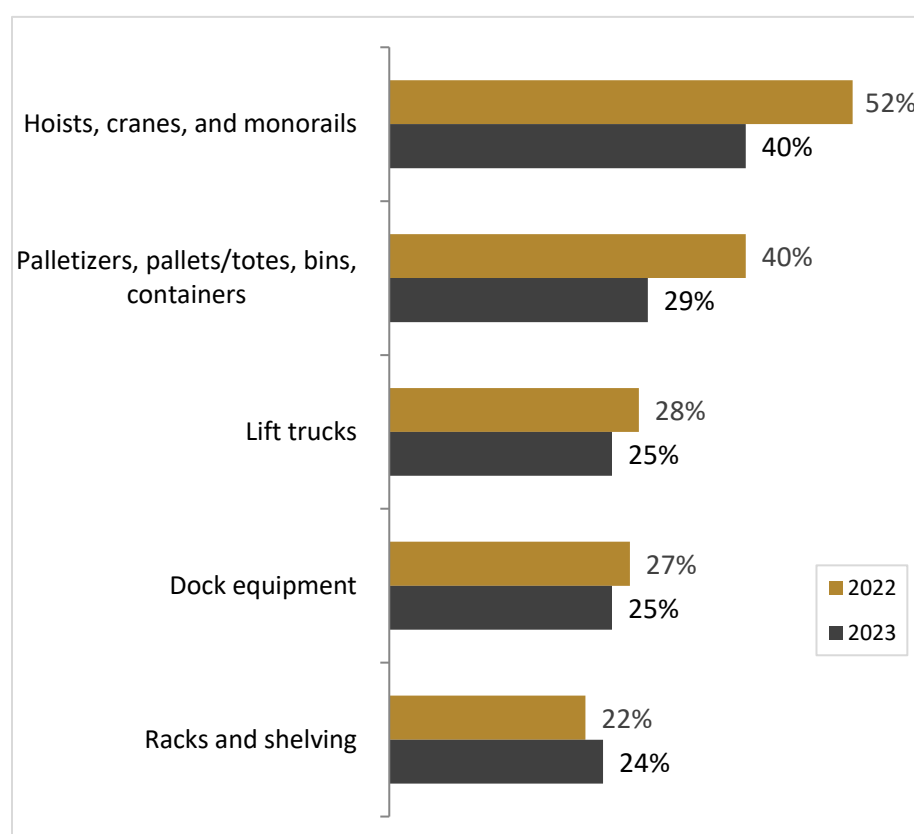
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What conventional equipment is presently in use in your organization and which will you be upgrading or implementing during the next 24 months?

In use



Plans to upgrade/implement





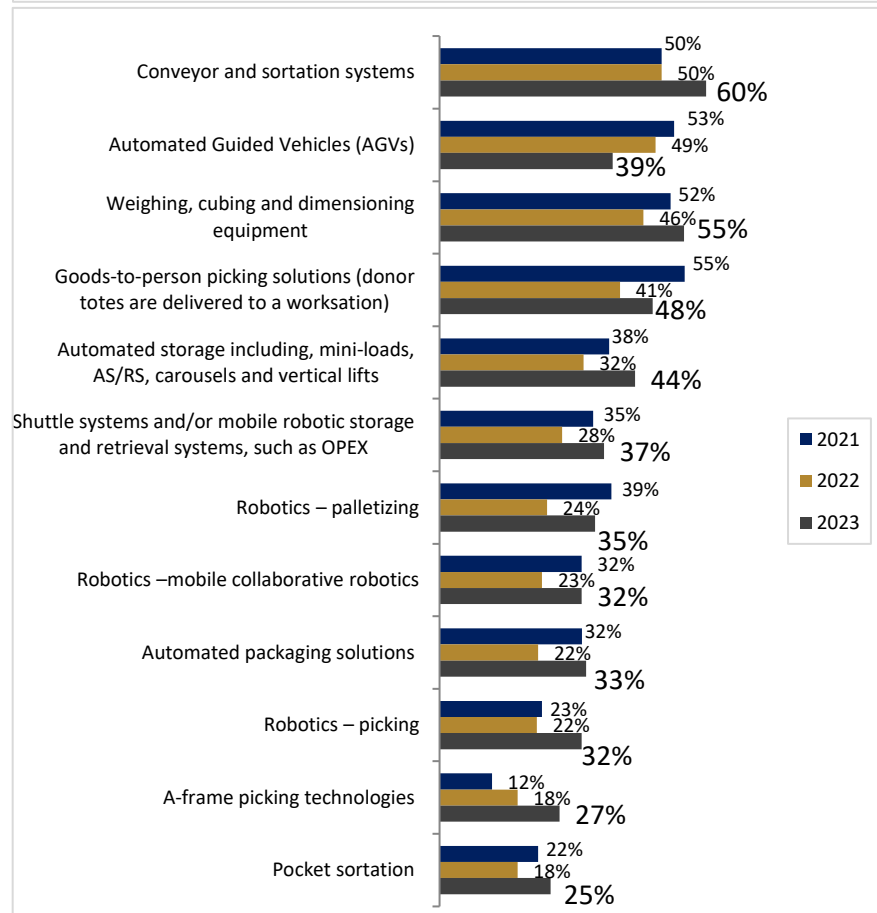
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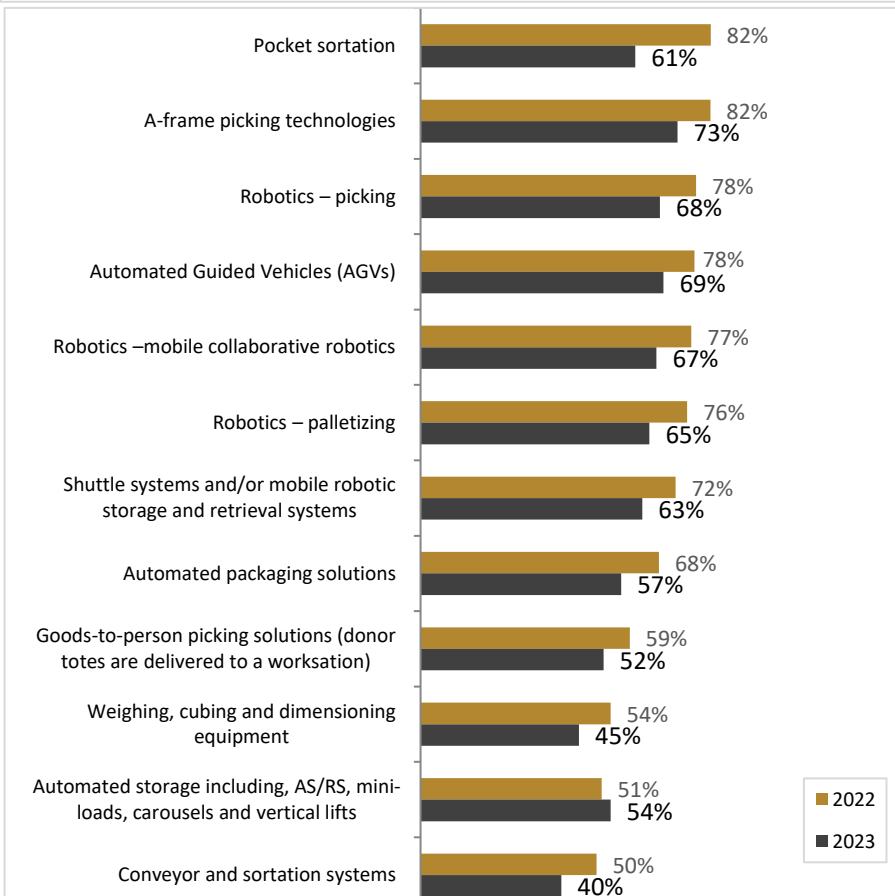
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What automated equipment is presently in use in your organization and which will you be upgrading or implementing during the next 24 months?

In use



Plan to upgrade/implement



December 2022

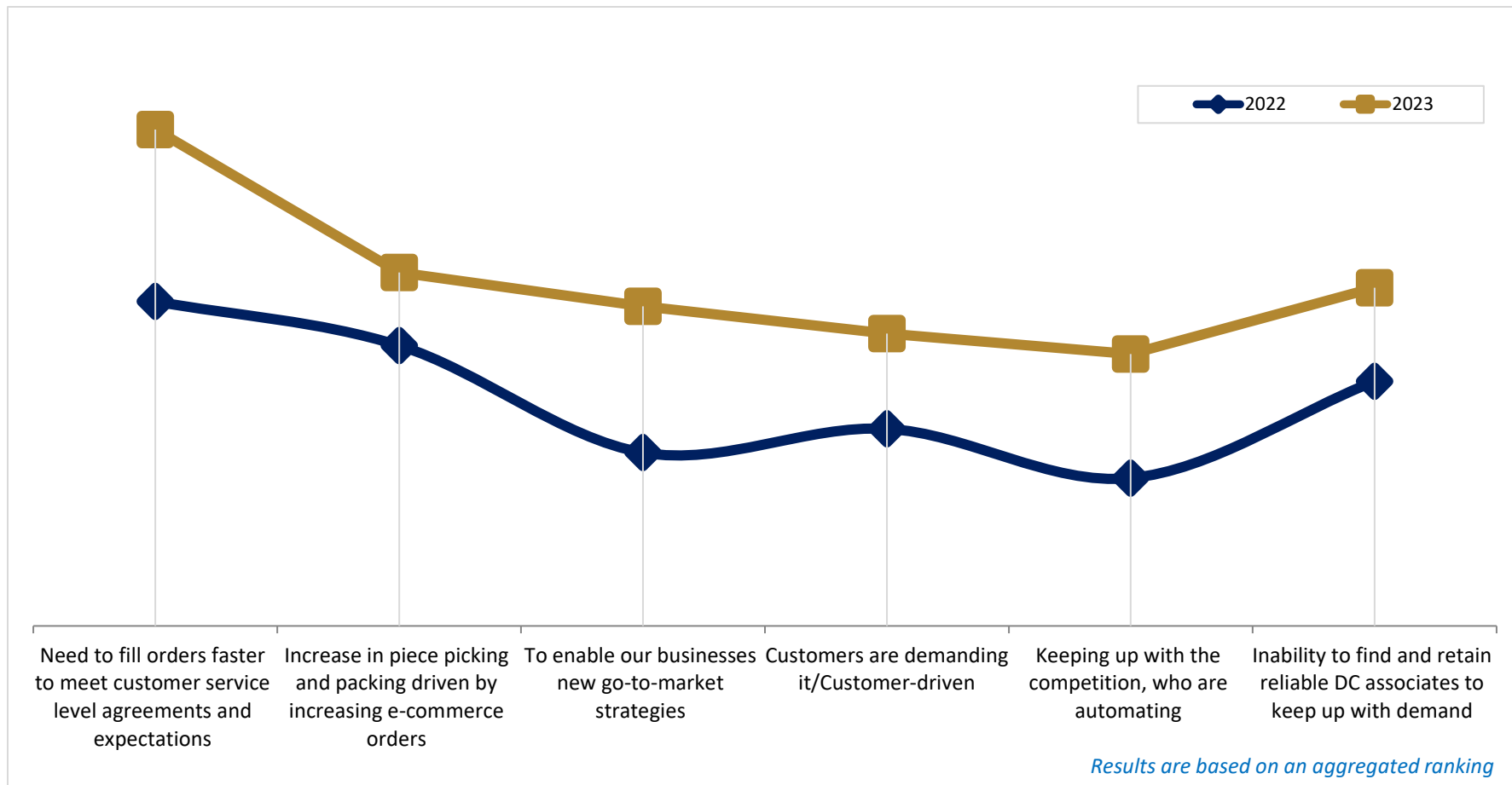


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If you plan to evaluate or purchase automated materials handling equipment, technology or software during the next 2 years, please rank in order of importance reasons for your decision (please rank most important first, next most important 2nd, etc.).



Analyze criteria based on relative ranking within each year



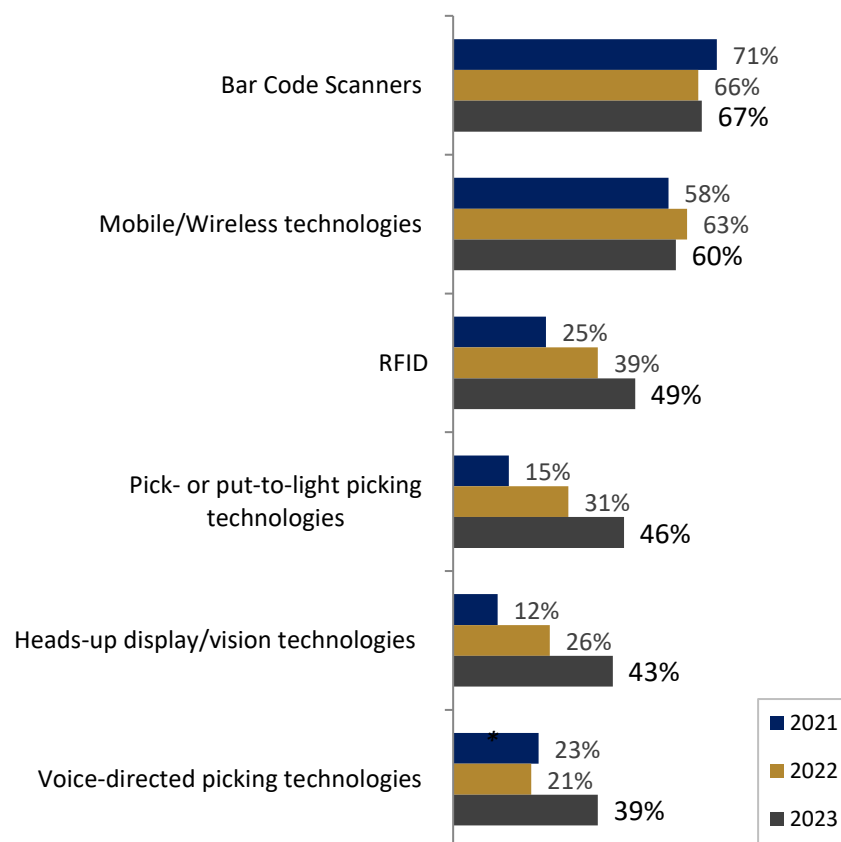
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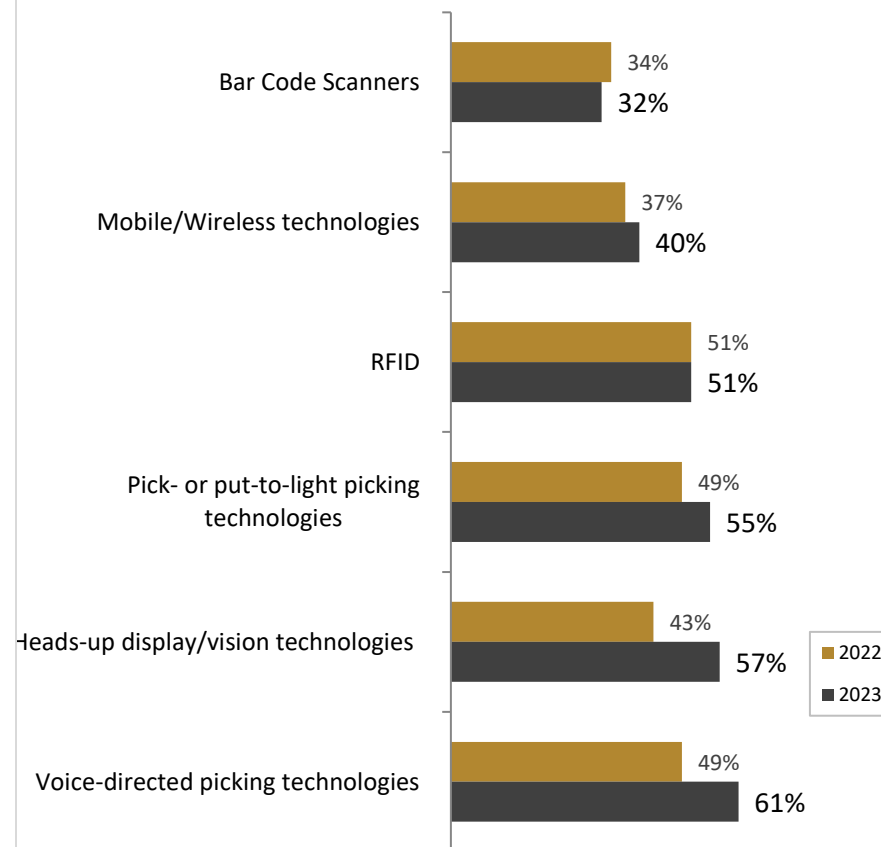
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What data collection technologies are presently in use in your organization and which will you be upgrading or implementing during the next 24 months?

In use



Plan to upgrade/implement





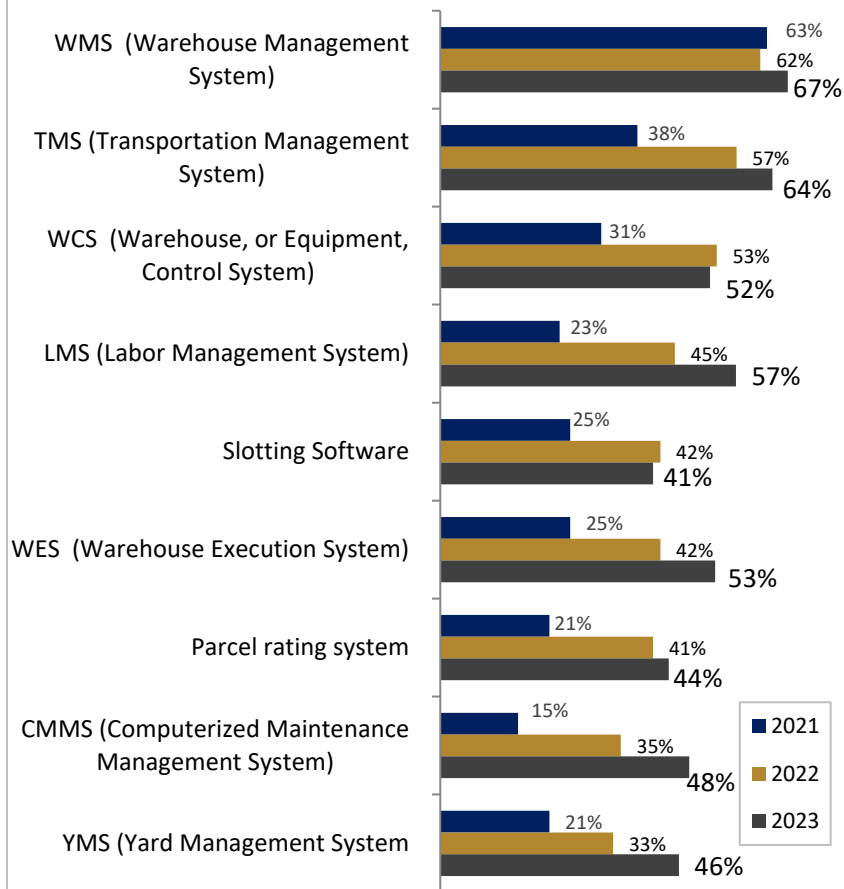
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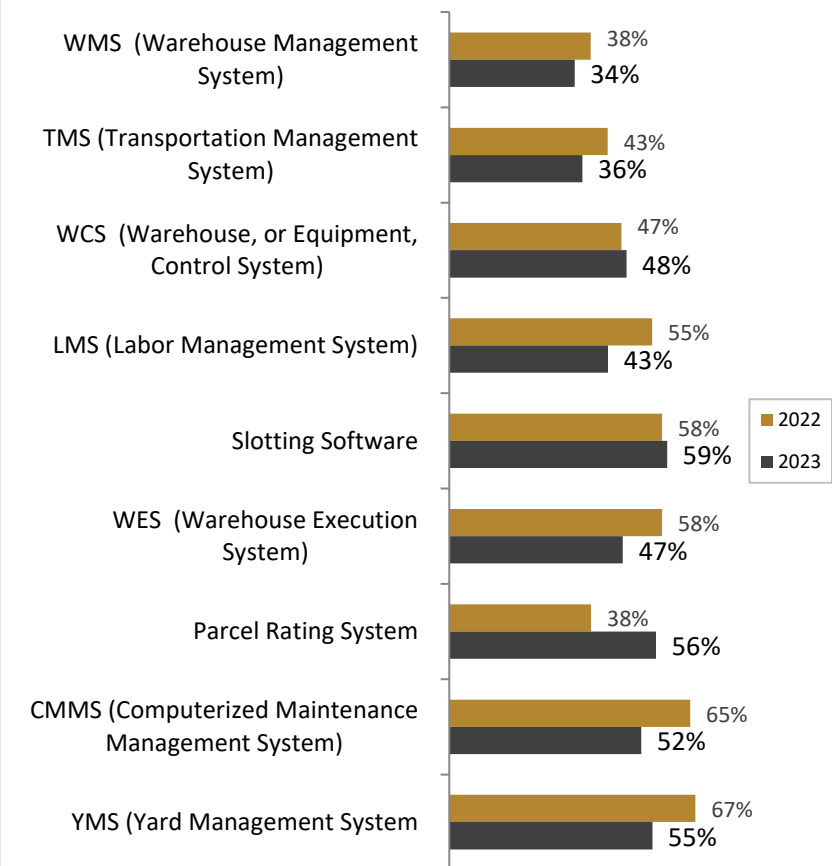
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What supply chain execution software solutions are presently in use in your organization and which will you be upgrading or implementing during the next 24 months?

In use



Plan to upgrade/implement





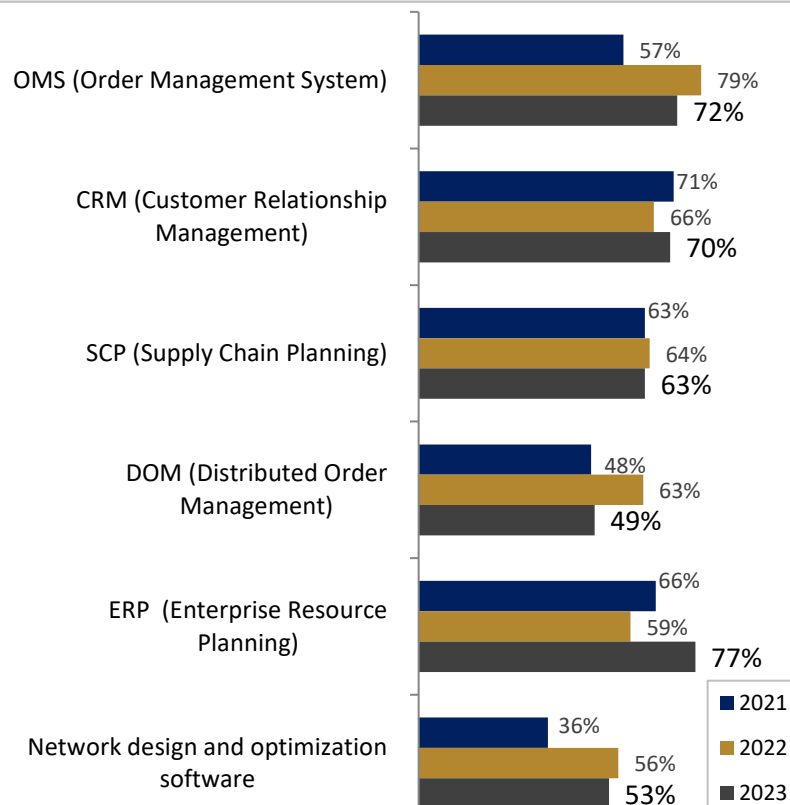
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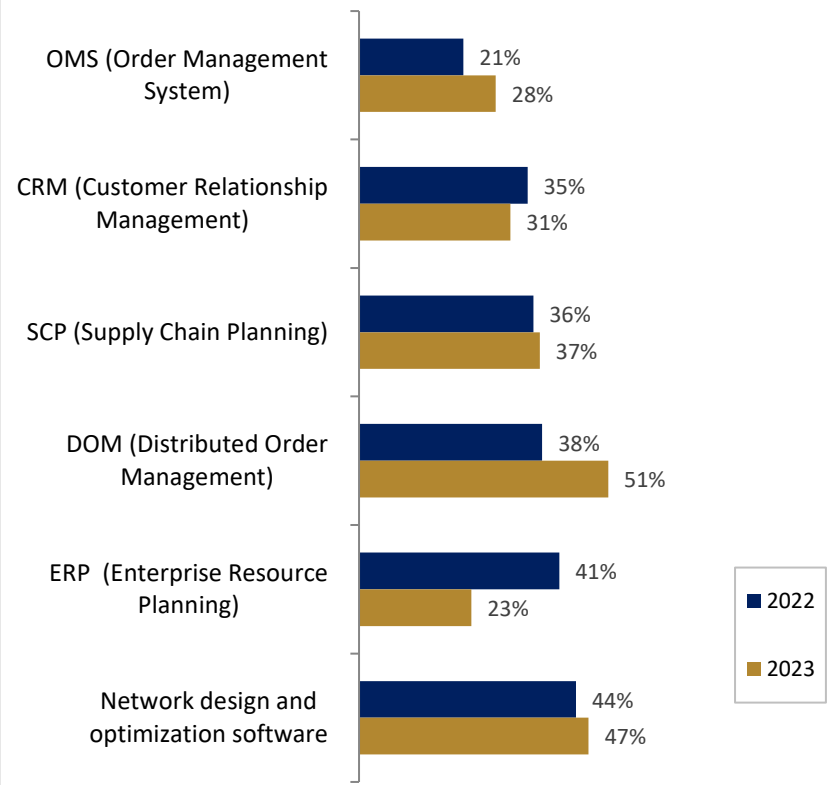
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What supply chain management software solutions are presently in use in your organization and which will you be upgrading or implementing during the next 24 months?

In use



Plan to upgrade/implement



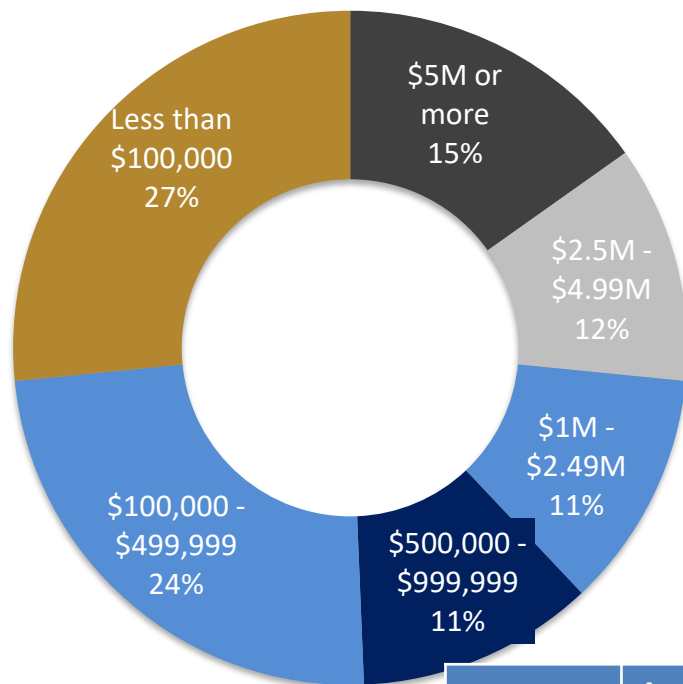


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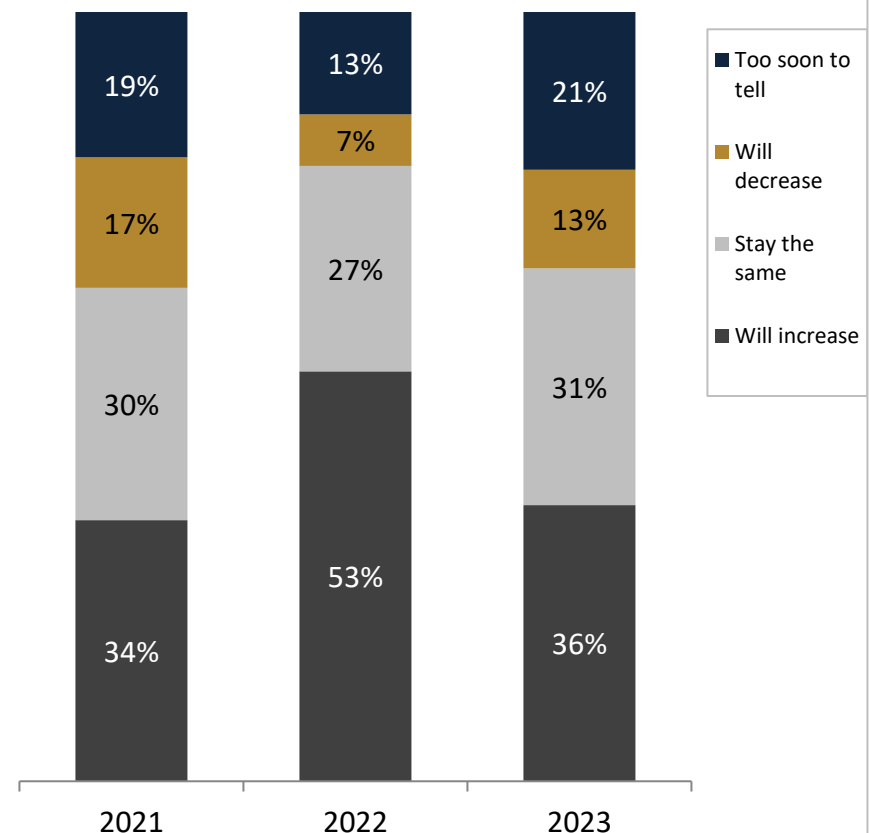
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Approximately, how much do you estimate your company will have spent on all materials handling equipment and solutions in 2022?



	Average
2021	\$1.579M
2022	\$2.023M
2023	\$1.570M

How will this compare with the amount your company will spend in . . . ?



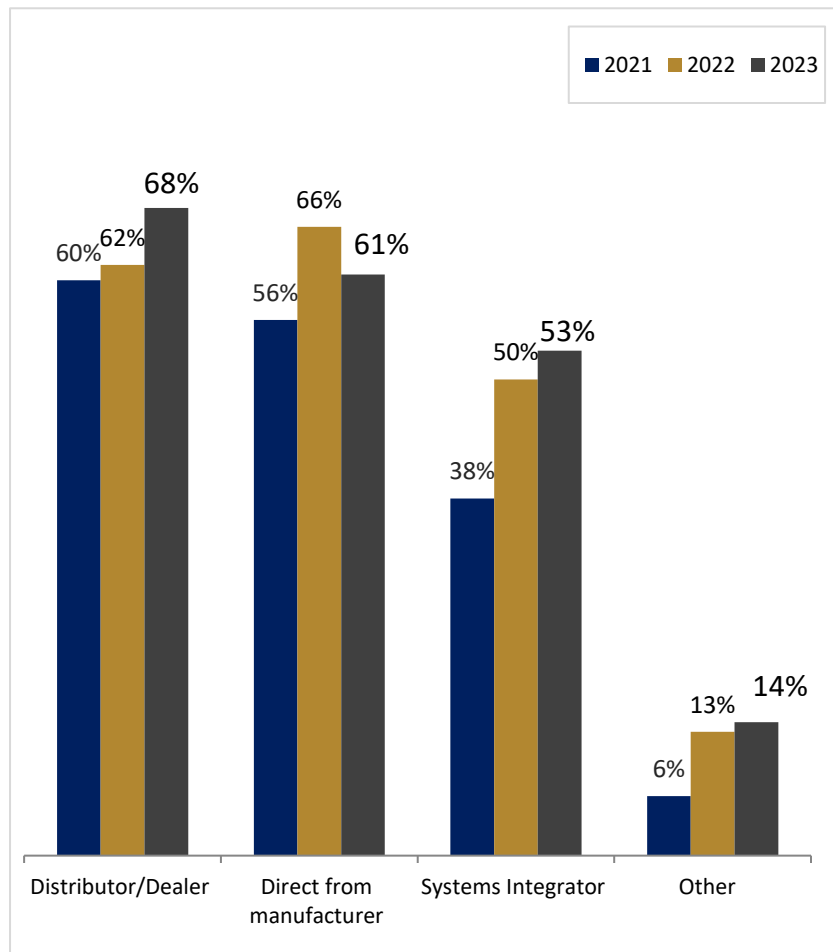


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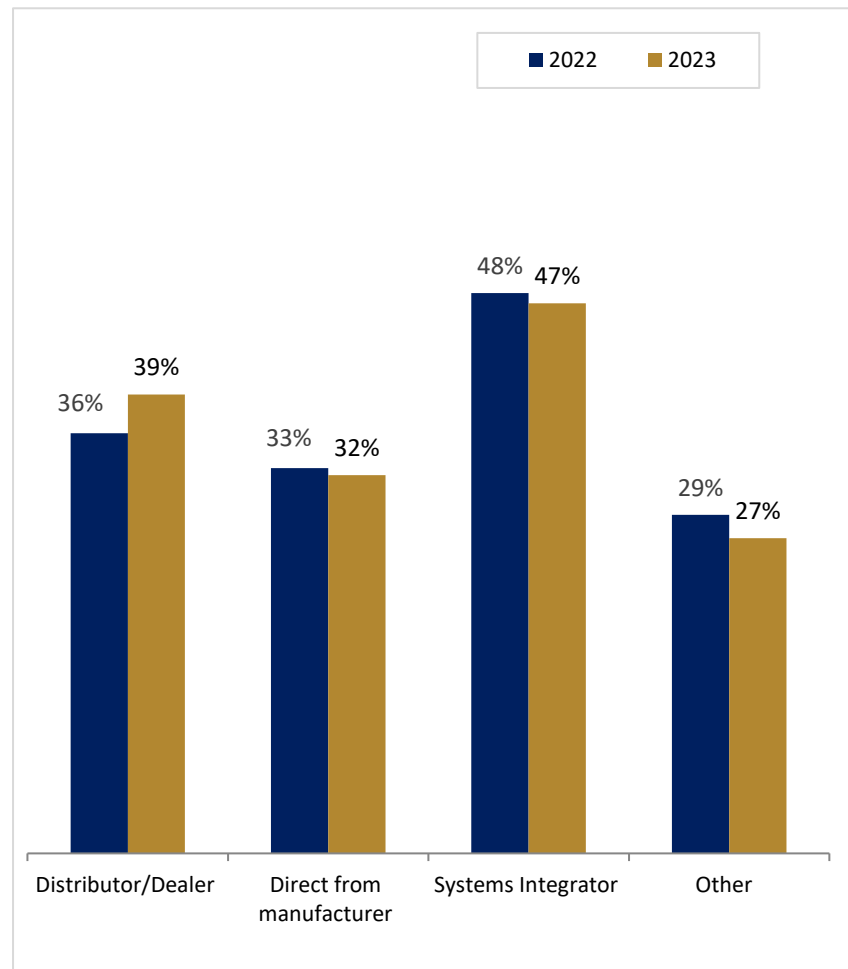
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From which channel(s) do you typically purchase order fulfillment solutions?



How will future purchases be made?



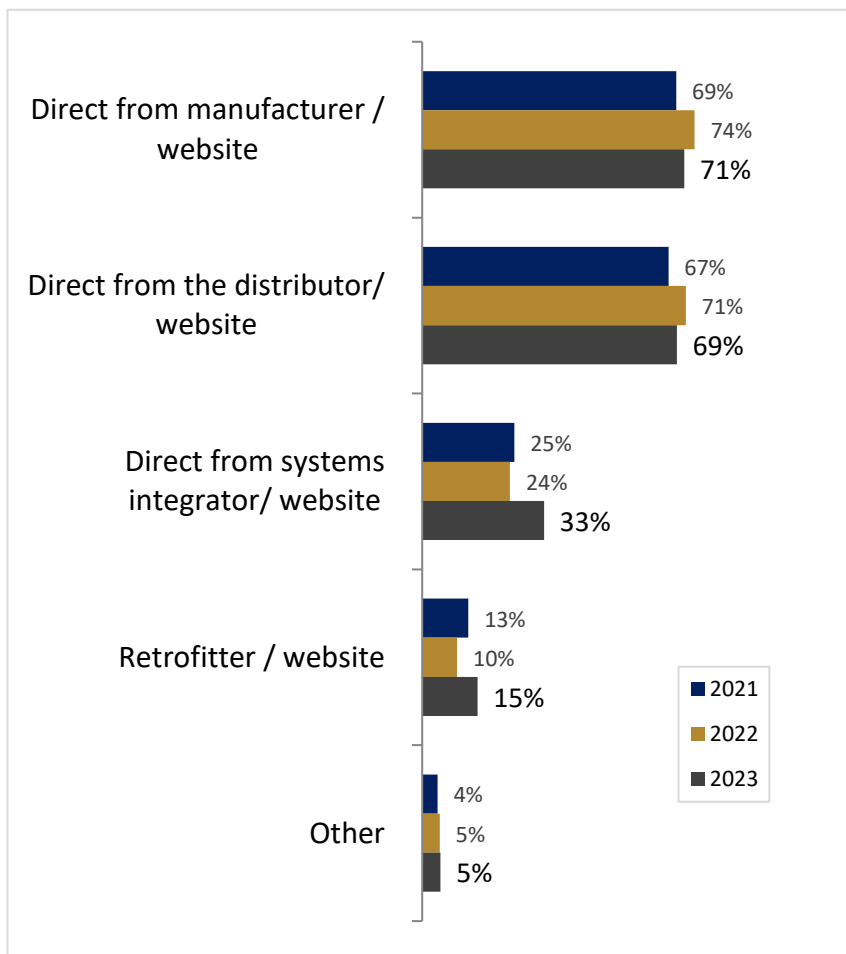


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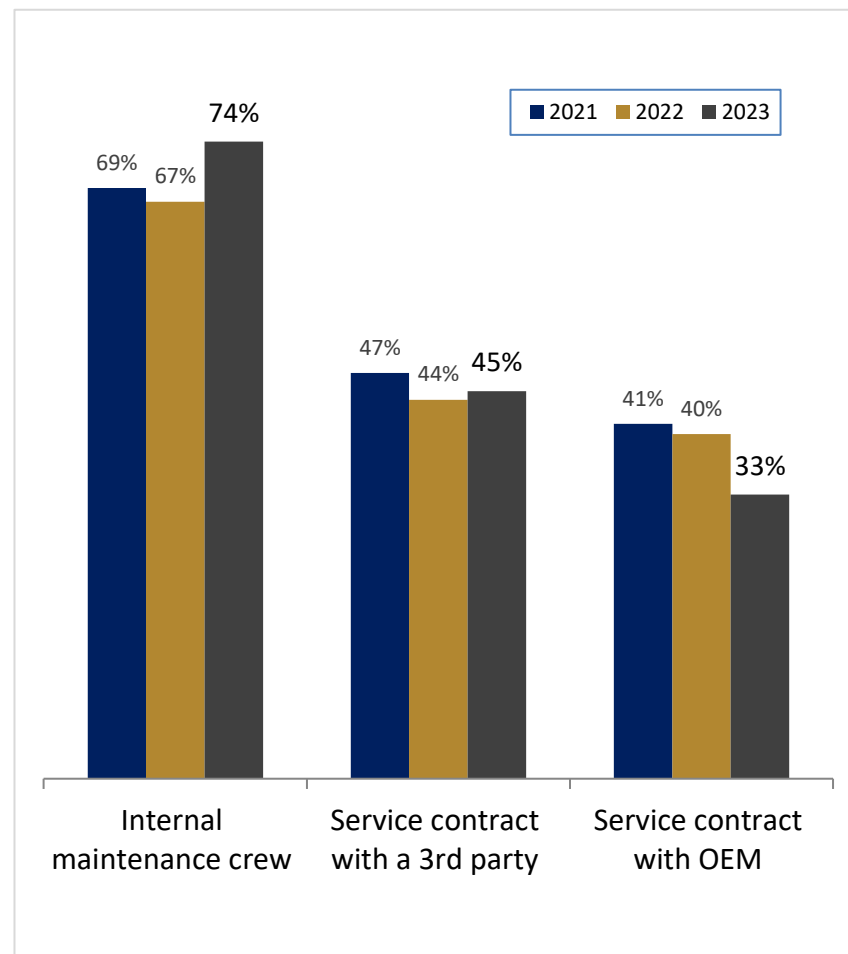
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From which sources are replacement or spare parts purchased?



Who handles the repair and maintenance of your materials handling automated equipment?





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Respondent Demographics

What is the total square footage of the warehouse/DC space that you influence?

	2021	2022	2023
Less than 50,000 sq. ft.	31%	16%	35%
50,000 sq. ft. –100,000 sq. ft.	23%	13%	26%
100,000 sq. ft. –250,000 sq. ft.	14%	24%	19%
More than 250,000 sq. ft.	33%	47%	21%
Average sq. feet	137,980	177,220	121,474

What is the primary activity at your location?

	2021	2022	2023
Corporate headquarters	25%	21%	22%
Warehouse supporting manufacturing	14%	7%	5%
Warehouse/distribution center	40%	64%	47%
Manufacturing	15%	5%	23%
Other	6%	5%	3%

What is the primary product or service at your location?

Manufacturing	2021	2022	2023
Food, Beverage & Tobacco	14%	5%	11%
Automotive & Transportation Equipment	10%	7%	9%
Fabricated Metals	6%	7%	5%
Computers & Electronics	2%	7%	6%
Industrial Machinery	10%	16%	17%
Chemicals/Pharmaceuticals	2%	5%	2%
Paper/Printing	1%	2%	1%
Aerospace	2%	5%	4%
Electrical Equipment	4%	9%	11%
Textiles/Apparel	2%	12%	7%
Furniture	1%	7%	6%
Plastics & Rubber	2%	12%	10%
Primary Metals	1%	5%	4%
Other Manufacturing	2%	2%	6%
Non-Manufacturing			
Transportation/Warehousing Services	2%	1%	4%
Retail Trade	4%	2%	6%
Business/Consulting Services	10%	3%	5%
Wholesale Trade	2%	1%	4%
3rd Party Logistics Provider	8%	6%	4%
Other Non-Manufacturing	2%	2%	3%



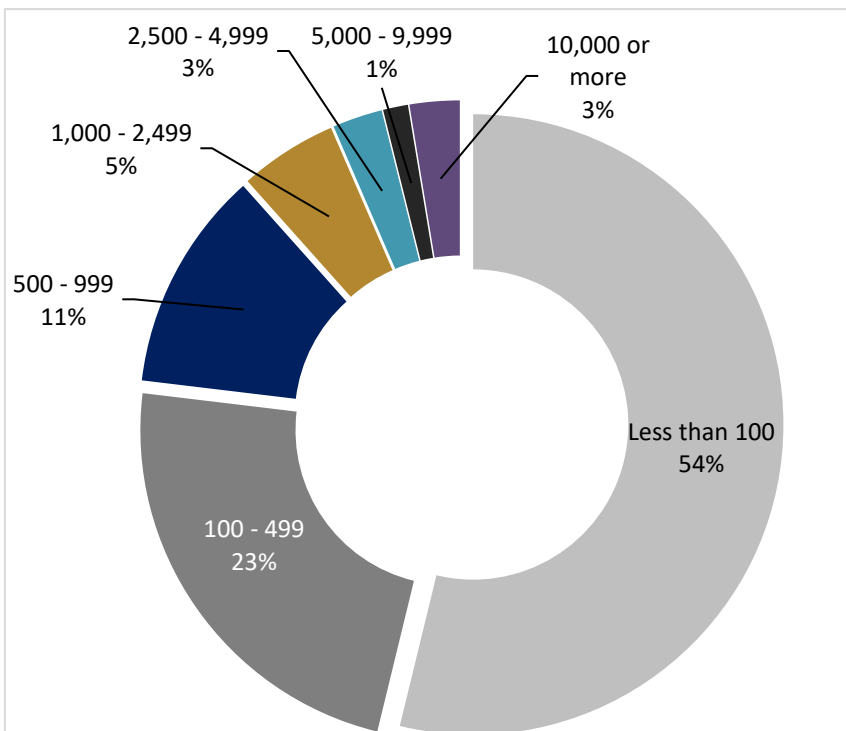
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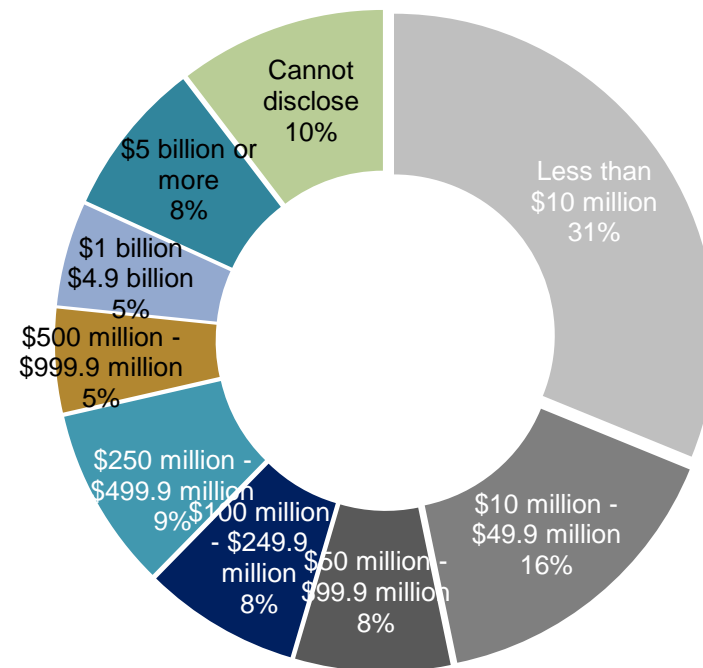
Respondent Demographics

How many employees are at your facility?



	Average # employees
2021	754
2022	738
2023	748

Which best estimates your company's 2022 annual revenues?



	Average revenues
2021	\$784M
2022	\$710M
2023	\$704M