

A photograph of a warehouse interior. A worker wearing a white hard hat, a plaid shirt, and blue overalls is operating a yellow forklift. The forklift is lifting a pallet of white boxes. The worker is looking up at the boxes. The warehouse has high blue metal shelving units filled with boxes. The lighting is bright, and the overall scene is industrial.

2022 LIFT TRUCK ACQUISITION & USAGE STUDY

June 2022

CONDUCTED BY

PRG
PEERLESS RESEARCH GROUP

MODERN
MATERIALS HANDLING



Introduction & Methodology

❏ This survey is the 2022 wave of *Modern Materials Handling's* annual tracking study to better understand how lift trucks are acquired and how fleets are managed and maintained. Where available the report compares this year's findings to 2021 and 2020 results.

❏ Specifically, the study examines:

- ❏ Lift trucks in use and planned for acquisition
- ❏ Lift truck acquisition
- ❏ Impact the economy has on lift truck acquisitions
- ❏ Lift truck maintenance arrangements and parts procurement
- ❏ Use of technology for managing lift truck fleet
- ❏ Respondent demographics

❏ Methodology:

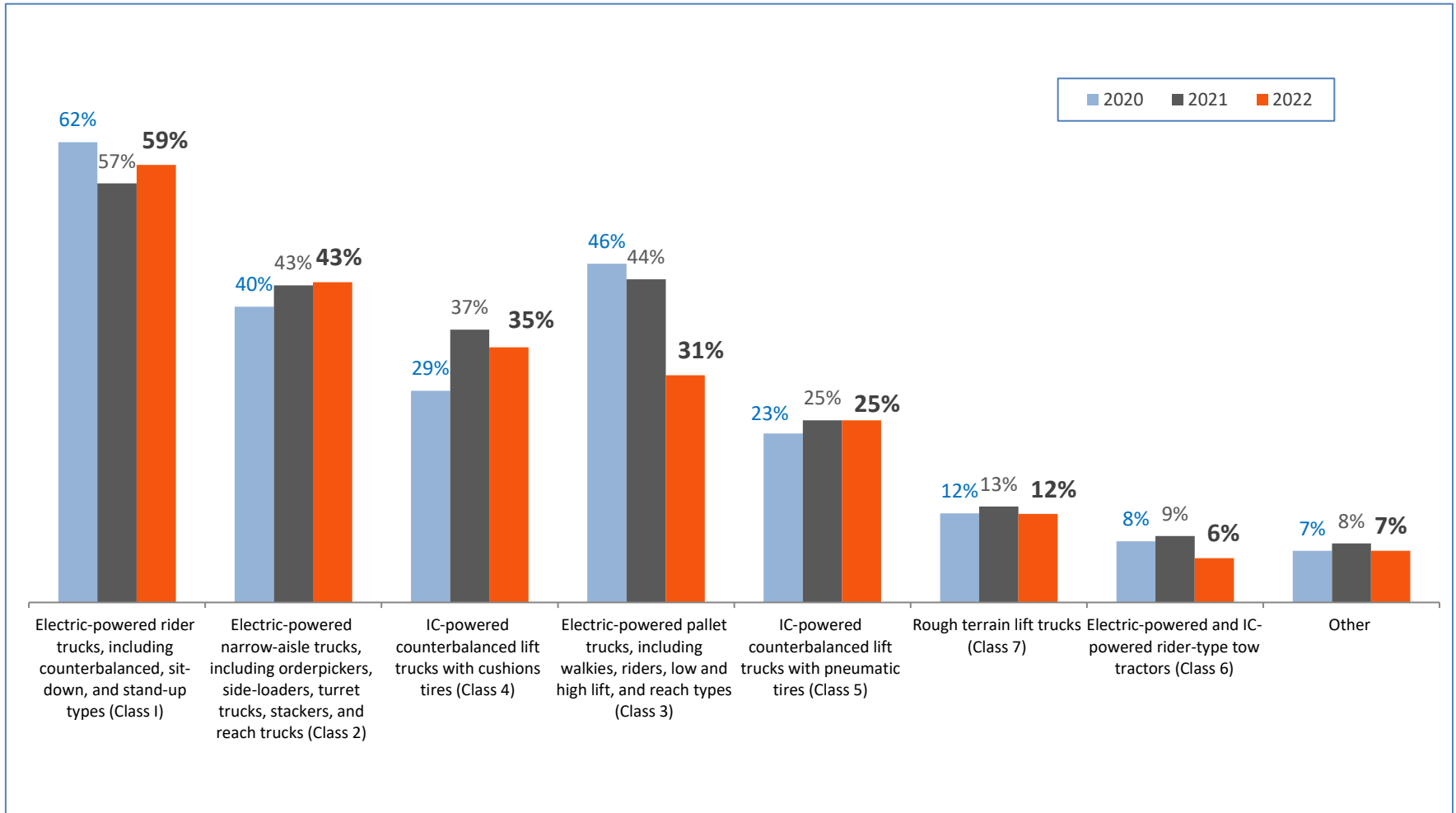
- ❏ Method: E-mail
- ❏ Sample: Subscribers to *Modern Materials Handling* magazine
- ❏ Respondent qualifications: Involvement in the evaluation and purchase of lift trucks for their facility
- ❏ Field & Response

	2022	2021	2020
Fieldwork	May	May/June	May
# of usable returns	185	147	158

❏ Margin of error: At a 95% confidence level, results are projectable at a margin of error of +/- 7.2%.



Types of lift trucks in use at facilities

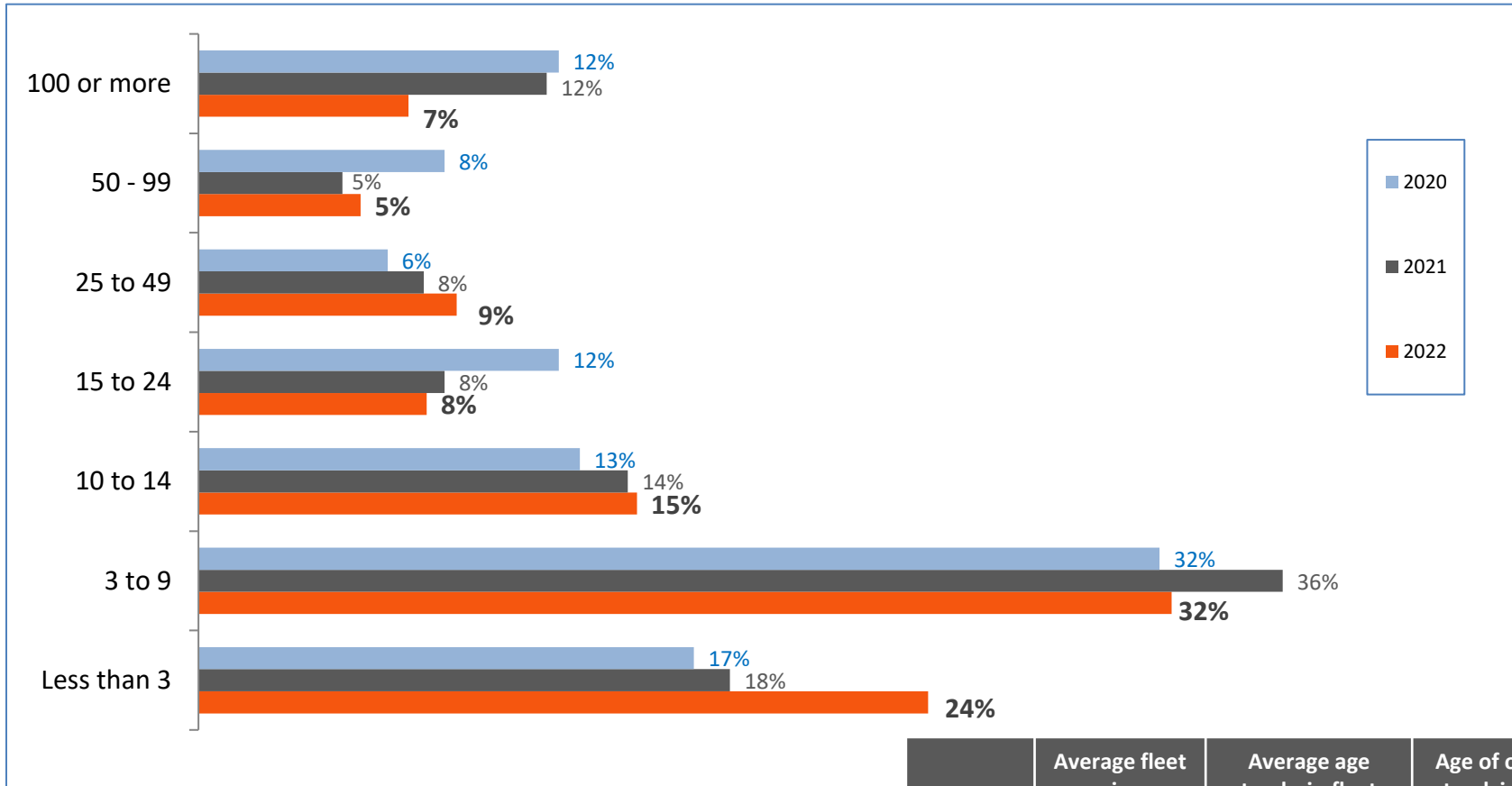


Note: Multiple answers accepted

What type(s) of lift trucks are in use at your facility?



Size of lift truck fleets



In total, approximately how many lift trucks are currently in use at your facility?

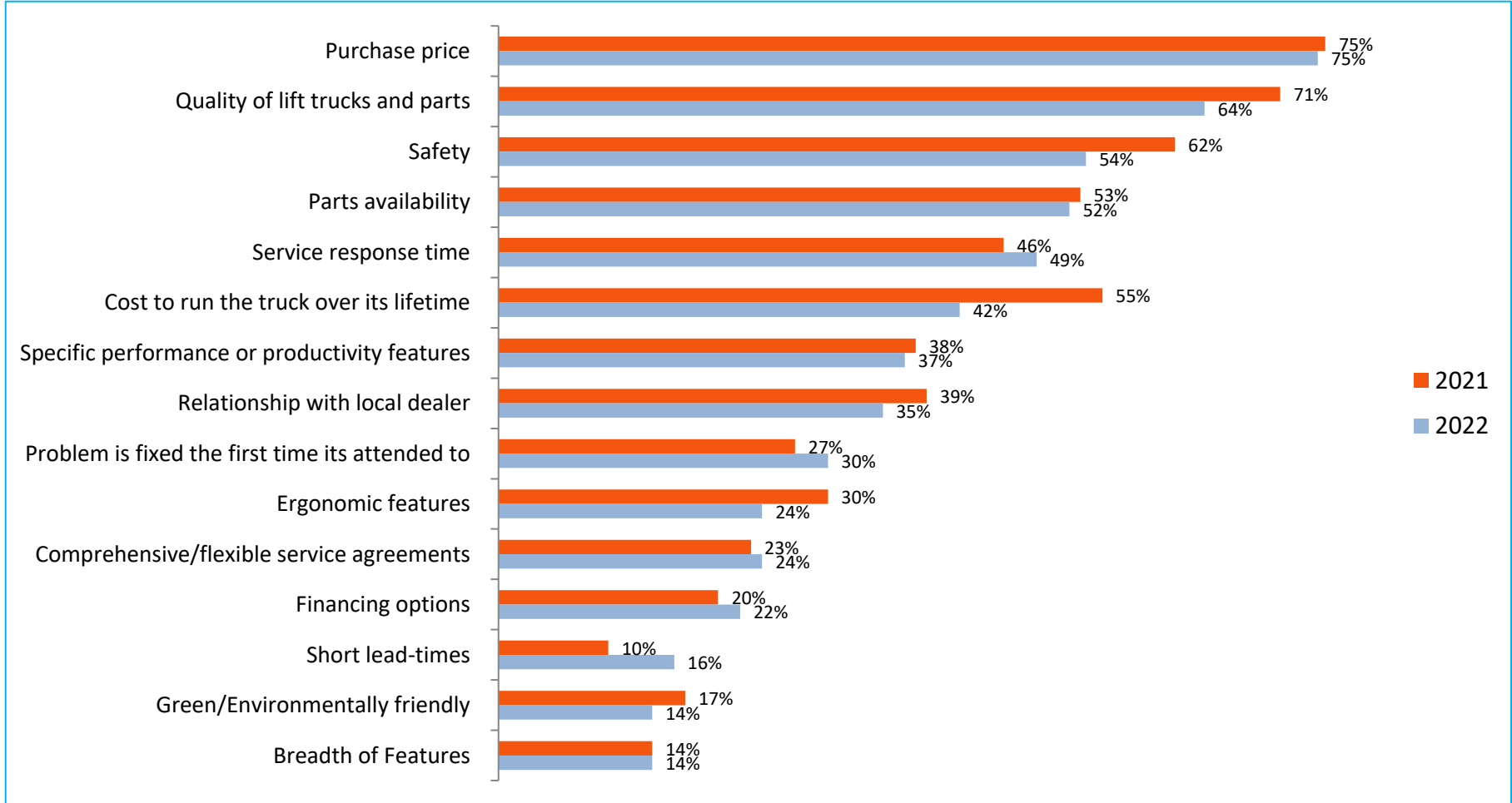
What would you say is the average age of the lift trucks in your fleet?

What would you estimate the age of your oldest lift truck currently in use?

	Average fleet size	Average age trucks in fleet	Age of oldest truck in use
2020	27	8 years	14 years
2021	27	9 years	15 years
2022	20	9 years	15 years



Characteristics considered important when evaluating lift trucks for purchase or lease



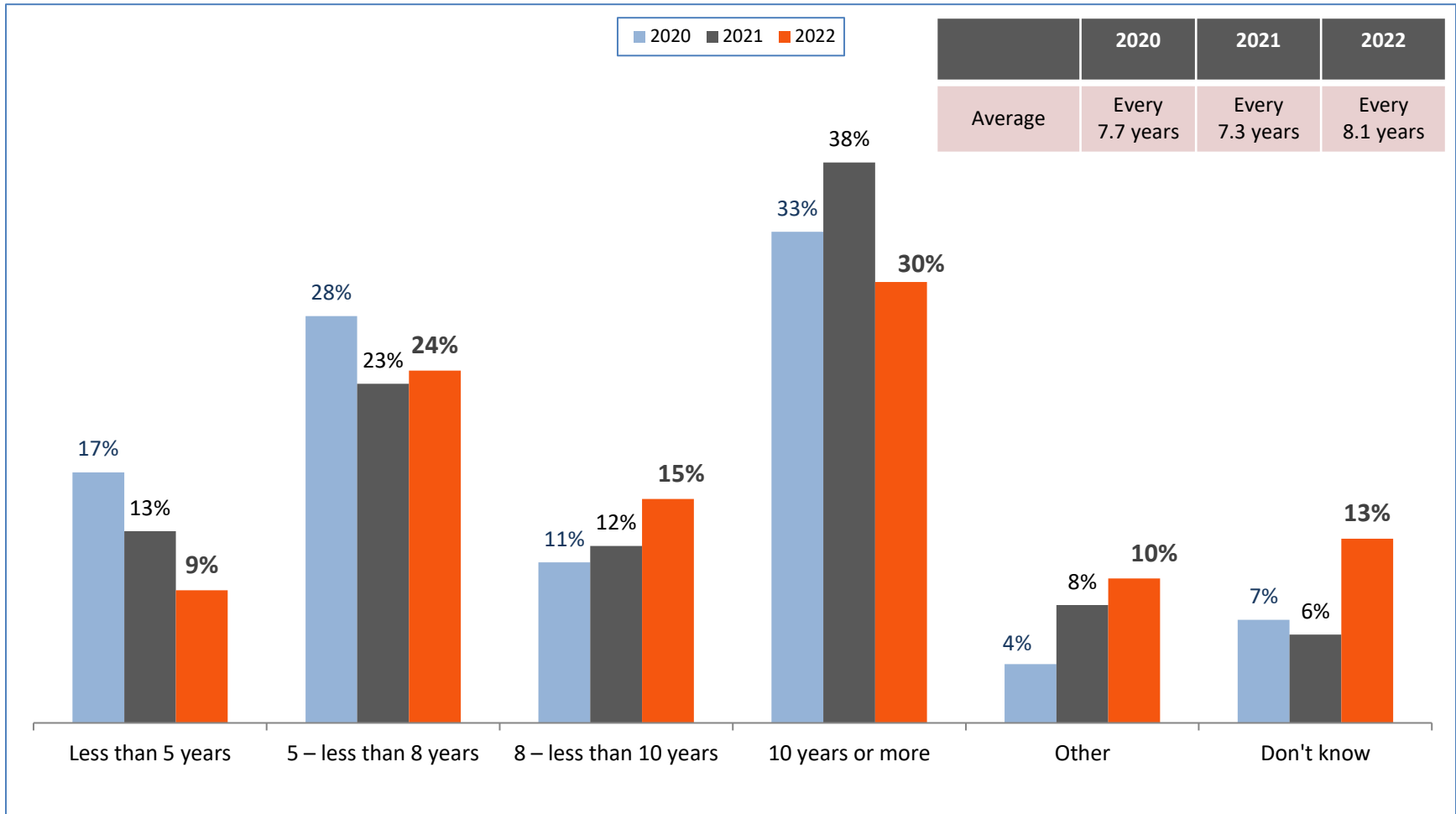
Note: Multiple answers accepted

Asked in 2020 and 2021 waves

When evaluating lift trucks for purchase or lease, how important are each of the following characteristics?



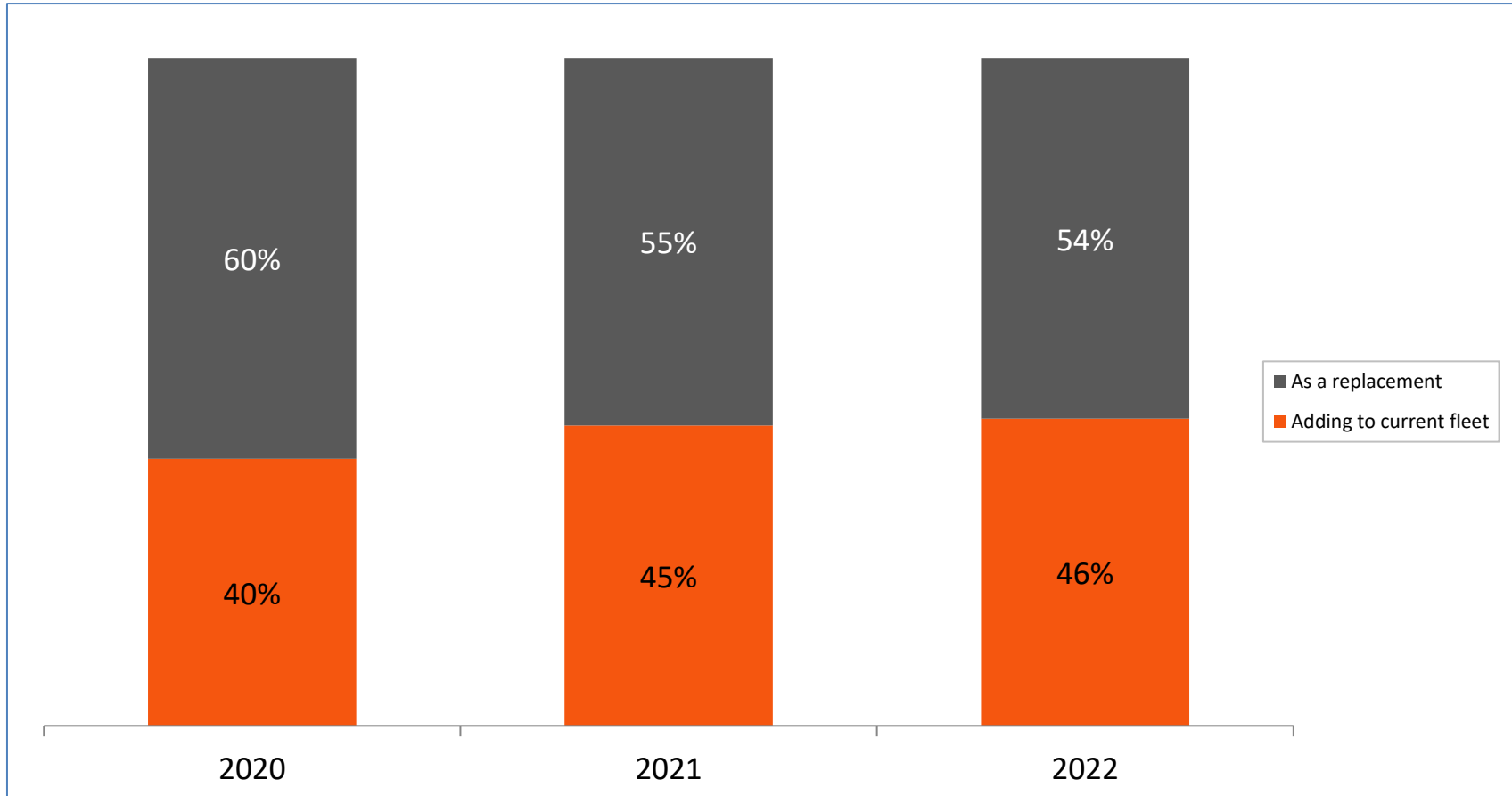
Replacement and retirement schedules



How often do you typically replace lift trucks?



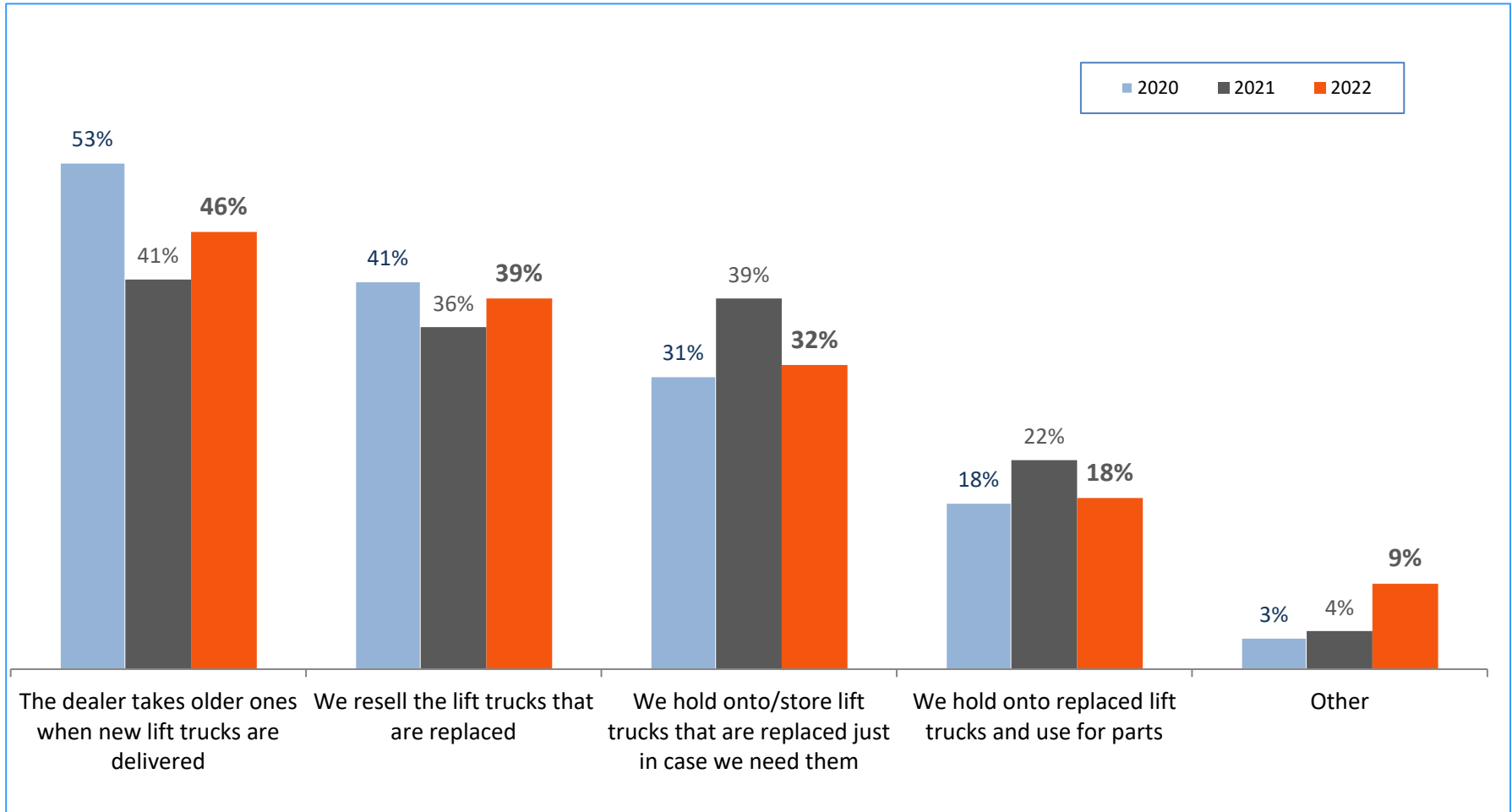
Percent of lift truck acquisitions expected to be an addition vs. replacement



What percent will be an addition to your fleet and what percent will be replacing trucks now in use?



How companies are handling rotation & disposal of lift trucks

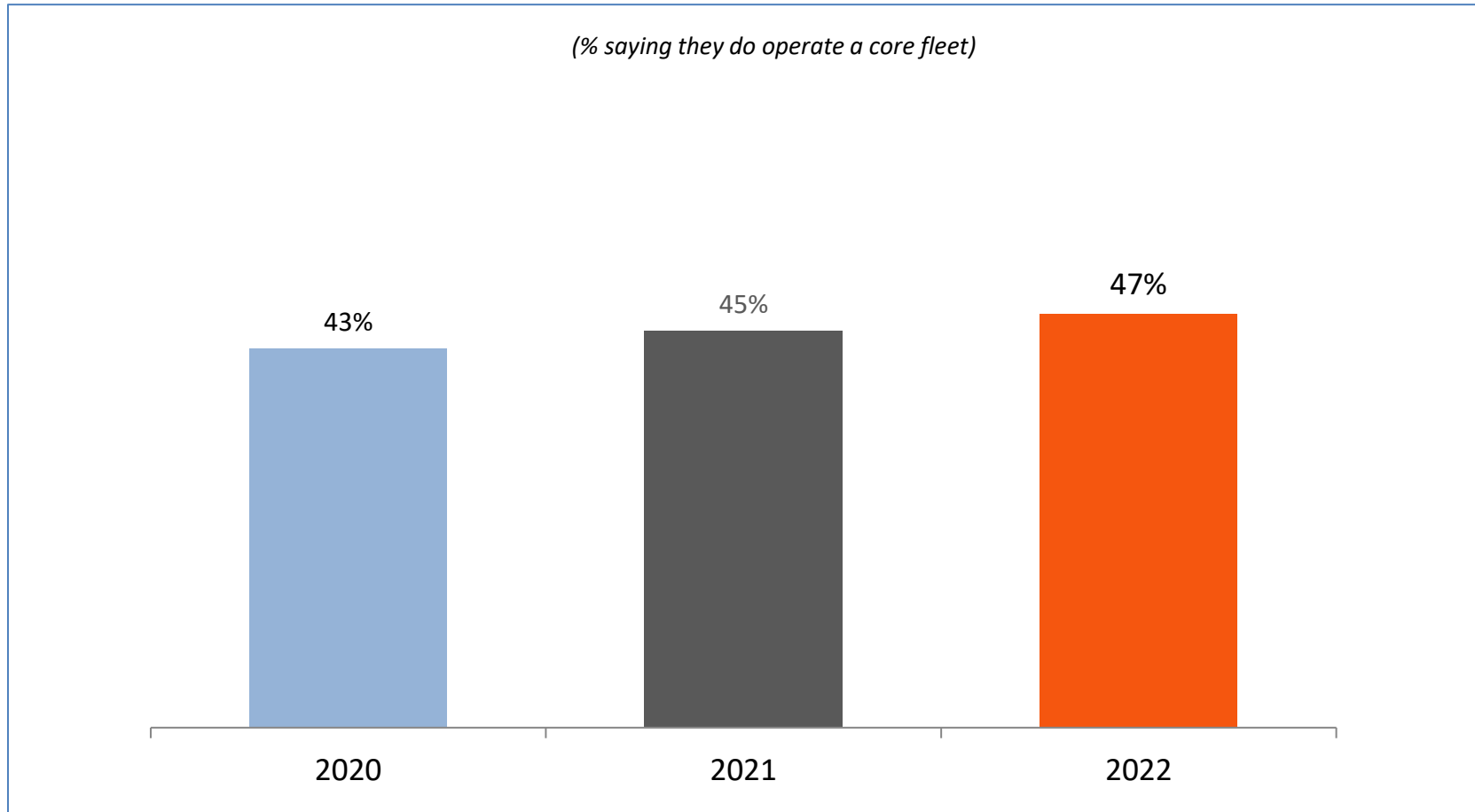


Note: Multiple answers accepted

For the lift trucks you buy, what are your practices regarding lift truck rotation or disposal?



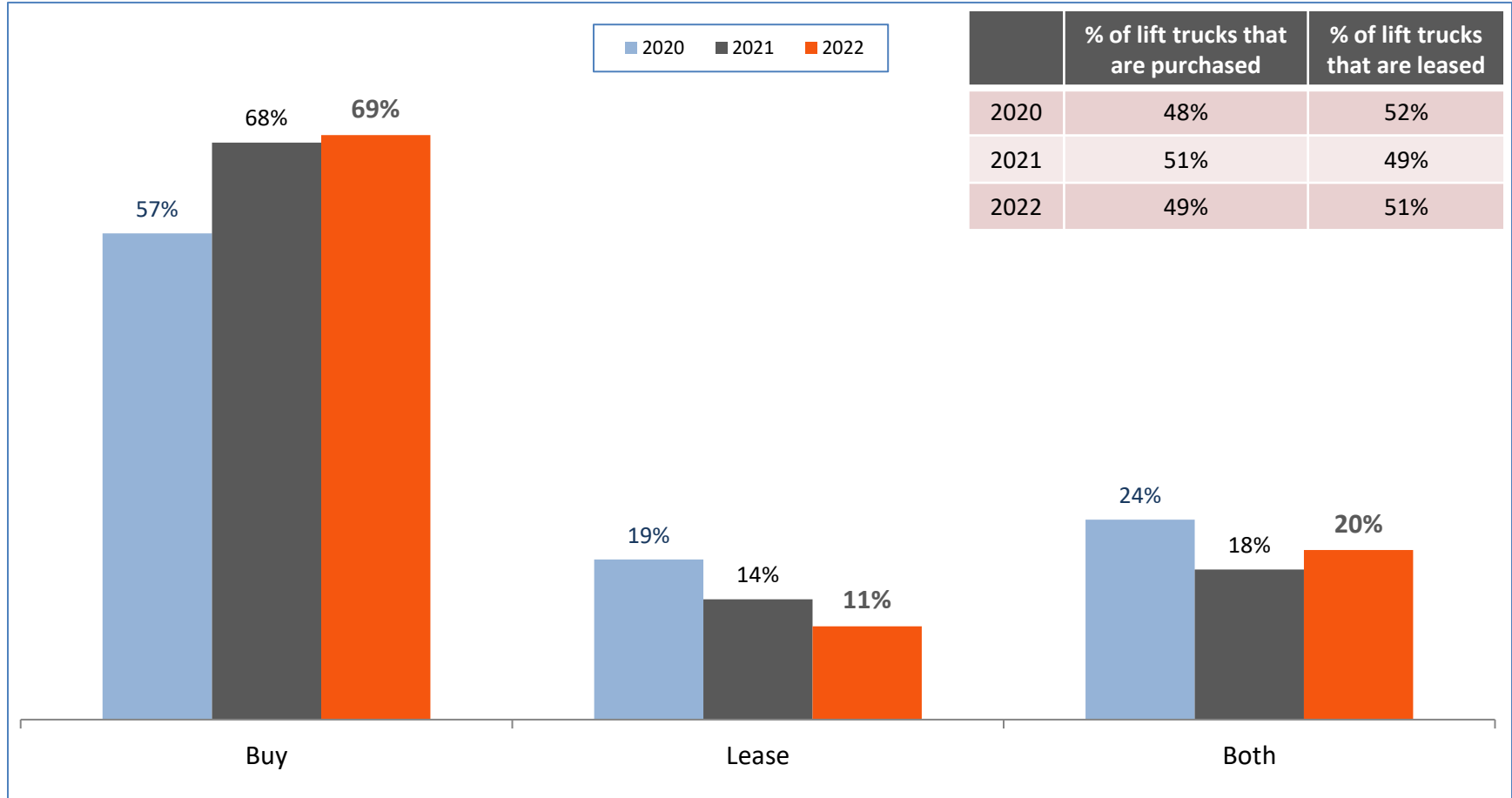
Future lift truck fleets



Do you operate a core fleet of lift truck? In other words, a fleet of trucks you use regularly vs. a less-utilized reserve fleet.



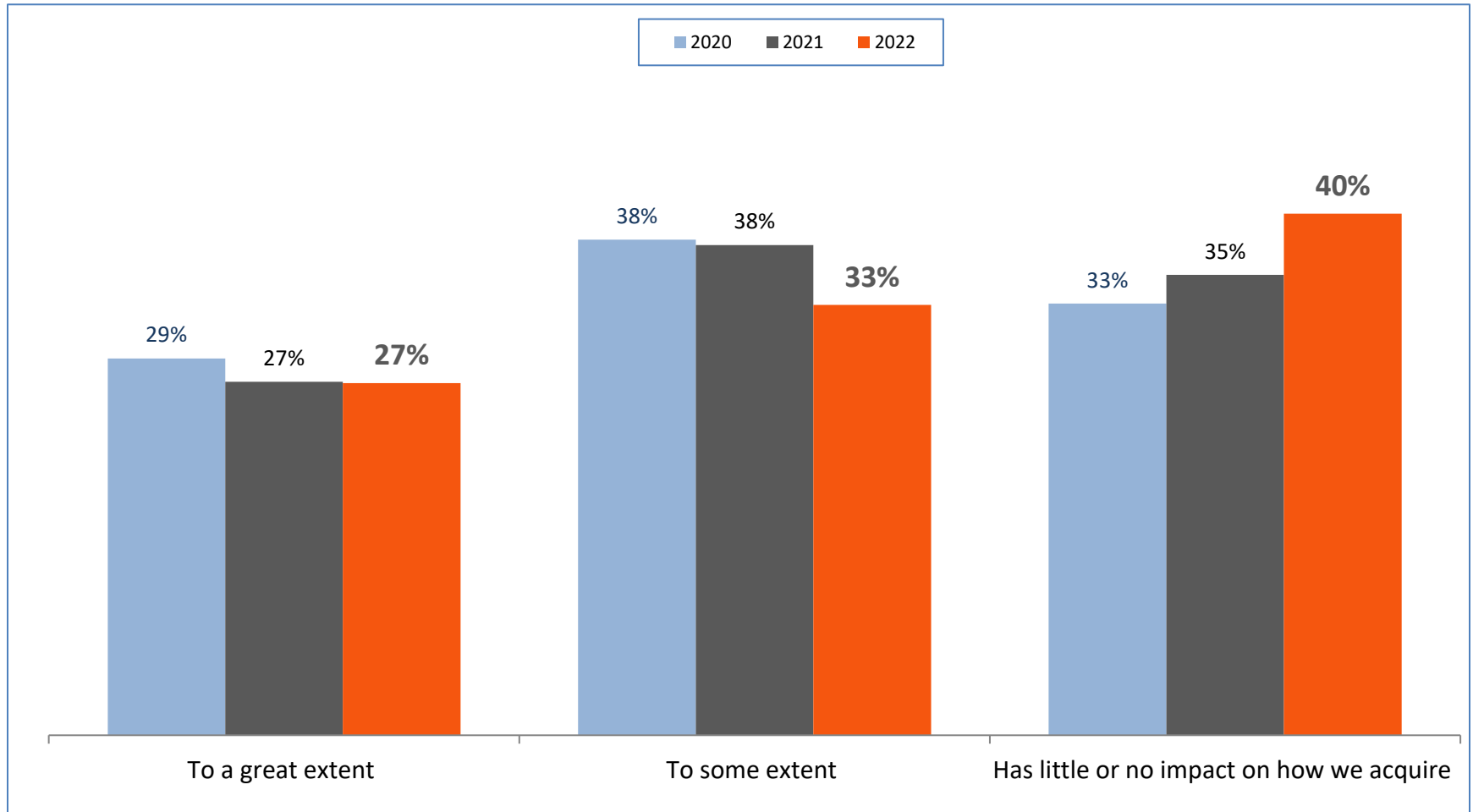
How lift trucks are acquired



Do you typically buy lift trucks, lease them or both?



Level of impact the economy or market factors have on lift truck acquisitions



To what extent does the economy or market factors influence how you acquire lift trucks?



Reasons the economy . . .

. . . has a great impact on lift truck purchase decisions

- Account statements reflecting payment for a credit freeze
- Auctions and business closures
- Availability
- Business expansion, leads time etc..
- Capacity and capital expenditures
- Cash flow for business needs
- Company making little profit then hold off on equipment purchase
- Cost and amount of usage forecasted for the truck
- Costs within the market, comparing versus leasing options and our time horizon
- Customer orders and jobs dictates the need to purchase a new equipment - if customers are ordering a lot there is more need to upgrade the equipment
- Decision on lease vs buy vs rent all comes down to whether we are looking at a good long term market
- Depends on the interest rates, on the cash flow of the company and if the prices of new or used forklifts are high or low. If the economy is booming then we are more likely to buy new forklifts.
- Flat economy, business is flat. No need to acquire additional capital resources unless we have an emergency
- for the longs lead times and I cannot to capitalize the project in the current year
- Have to stay busy to pay the trucks off
- Having funds available for acquisition
- I need to know lead times and if ordering the truck from another state ends up being cheaper
- If our need increases then we add
- If the economy is down and business is slow it is hard to justify the expense of a new lift truck
- If the forklifts are inexpensive and our sales are good we will update the fleet
- If we're not doing that great/the economy is not doing that great, we do not make any major purchases
- Interest rates
- Interest rates, revenues, and labor
- It's all financial at my company

Please explain how the economy/market-related issues impact your purchase decision.



Reasons the economy . . .

. . . has a great impact on lift truck purchase decisions [Continued]

Lead time

Lead times this year and last year have grown substantially due to pandemic and ocean carrier costs and delays of suppliers

Less sales revenue the less money we have to spend on upgrades

Lift truck availability demand directly corresponds to our revenue cycle. Revenue cycle is a leading indicator

Money in the budget

Price and cost per hours

Price and need

Prices for equipment

Pricing is key, the economy is in bad shape, we are not going to invest in new equipment until things settle down. Way too expensive and the supply chain is horrible, too long of lead times

Purchase is based on need. Economic factors determine need

The economy is volatile at this point in time and with the rate of inflation, we are being cautious with capital expenditures

The purchase is contingent on the business environment

There are no forklifts in the market

Waiting to see how the economy pans out.

We buy based on the needs of our customers

We want to replace equipment in the tail end of a recession

We work in commodities, so rags to riches to rags apply

When money is available we buy

When our business is doing good we need more trucks

Will investigate change current supplier if they can not deliver in 12 months and we can find a equal substitute

Working capital must be available. Our market is cyclical and a poor economy can make financing or purchase difficult due to cash flow



Reasons the economy . . .

. . . has some impact on lift truck purchase decisions

Annual budget allocation may vary depending on economy & market conditions
as a small business we rely on the lift truck in day to day operations. it is a must have, not a nice to have
As our business changes the type of work done changes. So fleet must adapt to the changing needs so it doesn't create a constraint

Availability
Availability and our business levels
Availability of lift trucks/time until new truck are available
Being prudent
Budget constraints
Business conditions to adding the expense or using capex
Capex money could vary with the economy and market we operate in
Cash flow
Cash flow
Cost conscience
Depends on how busy we are
Driving pricing and lead times out too far.
Funds availability
Good deals can move up a purchase plan
Good economy = more work = more needed
Have a budget
If prices are higher than usual we will wait
If the market is trending downward and our sales follow we become more cautious on buying equipment
If we are busy and have a lot of jobs going on or coming up, we are likely to purchase equipment needed.
If we are in the red or if we are in the black
If we find one cheap, we'll grab it.
Interest rates make leasing vs. financing a purchase more / less attractive
Interest rates on lease options
It depends on our bottom line, cash flow
It depends on the availability/pricing and hence economy does play a role
Lead times

Please explain how the economy/market-related issues impact your purchase decision.



Reasons the economy . . .

. . . has some impact on lift truck purchase decisions [Continued]

- Lower demand / availability of products reduces our quantity of needed trucks and vice versa
- Market value of one lift versus another as well as look at new and refurbished
- May affect business and the use of the machine wear
- No matter the economy, if you need a new piece of equipment to continue or expand the business you get it. If economic/market-related issues make it such that the addition of equipment does not support profitable operations, you do not acquire new equipment and do with what you have.
- Parts
- Parts may be too expensive
- Price is important along with features
- Pricing and lead time
- Purchasing decision is made when economy is booming and competitive offers are available
- Shifts in Market and lead times of new trucks sometimes require us to buy used trucks instead of new which is our preferred
- Slow market
- The decision is made by our finance office
- the forklifts increase our speed to market
- The price on a lift is important
- They are on them all day they need to comfortable
- They tend towards the Bottom Line and so are taken seriously when doing an Expense Proposal
- Too high priced
- Total Capital Budget for our Site
- We are a retail lumber yard/hardware, our business depends on the building industry. When the market drops so does our cash flow which in turn affects capex.
- We may choose to delay acquisitions in slow economic times
- We may or may not purchase new lifts depending on our sales. When sales are down we don't buy.
- We will hold off replacing equipment if the market is very tight
- With the price of new trucks and the long lead times now, we are just letting things ride and keep our fleet running well

Please explain how the economy/market-related issues impact your purchase decision.



Reasons the economy . . .

. . . has no impact on lift truck purchase decisions

Basically we are looking for good services and low energy consumption
 Business is growing and space expanding so we need more equipment
 Busy we are the more we rent. When the economy slows we sell off older equipment and more equipment for scrap and parts .
 Depends on how cheap I can get financing. If it is 0%, I will finance.
 Depends on the location and the business sales
 I buy auction equipment. Inspect them before I purchase and refurbish when they arrive. All work is done in-house.
 I typically choose Hyster lift trucks based on their reliability and also warranty
 It doesn't if we need it we buy it
 It doesn't. We need a forklift for our operation and when we need one, we buy it.
 It will not effect my decision
 Its a need so, we cant do with out it
 Little impact, as our business grows which sometimes correlates with economy but often times does not
 May need new equipment to accommodate new internal processes and materials
 No income/no purchase----increase business & good increase in profits=new purchase
 No sales no buy
 Possible slight delay
 Price on trucks has increased and affect our investment budget; the rent of trucks has decreased and we are looking for new markets
 Purchase as needed
 Purchase decision based upon current lift truck performance, and any anticipated repairs. Change made from battery operated to Propane power in certain areas of our plants.
 purchases may be slowed due to cash-flow
 Really no bearing on our upcoming purchase other than the availability or lack their of
 The economy or market related issues do not impact the purchase or lease of a fork lift
 Typically on a lease and when lease expires replacement equipment is purchased. Typically don't want the units after 64 month lease. Repair costs are too high.
 Very little impact. Will be more based on business needs.

Please explain how the economy/market-related issues impact your purchase decision.



Reasons the economy . . .

. . . has no impact on lift truck purchase decisions [Continued]

Volume of outgoing order shipments

We acquire new trucks as our operations expand and when the older trucks become too expensive to operate we are a retail wholesale company with over 200 discount stores. we sell food; clothing and various other household goods. When the economy is strong we benefit from our customers purchasing goods that typically have better margins.

We are owned by a hedge fund and when we submit our budgets they let us know if we can purchase/ lease new equipment

We base our purchasing on the reliability of the trucks that we have in the fleet. If they are broke down more than running then we replace them

We buy only when needed, trucks are no longer reliable

We choose 2-3 Manufactures and lead times and make a decision accordingly

We have a replacement plan in place, no matter what is happening on the market we replace the equipment that reach our maximum working hours

We look for the best equipment at the best price

We may choose to lease versus buy depending on economic and demand pressures

We might order earlier if lead times longer

We purchase base on need. When older trucks become week or experiencing many repairs, then we replace.

We purchase when necessary only

We purchase when required

We purchase when we need them

We replace them when there usefulness has failed our needs

We tend to stay with one brand / manufacturer which has proven over time regarding parts availability

When forklift prices go up we are less likely to buy

When it needs to be replaced it is because it is no longer viable

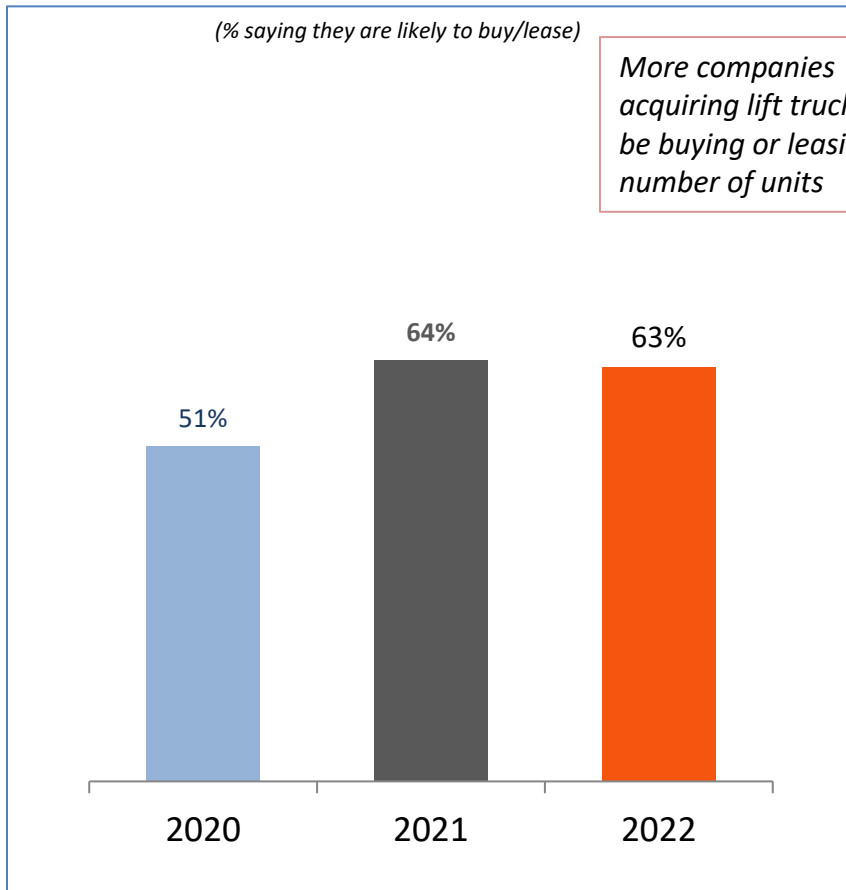
Please explain how the economy/market-related issues impact your purchase decision.



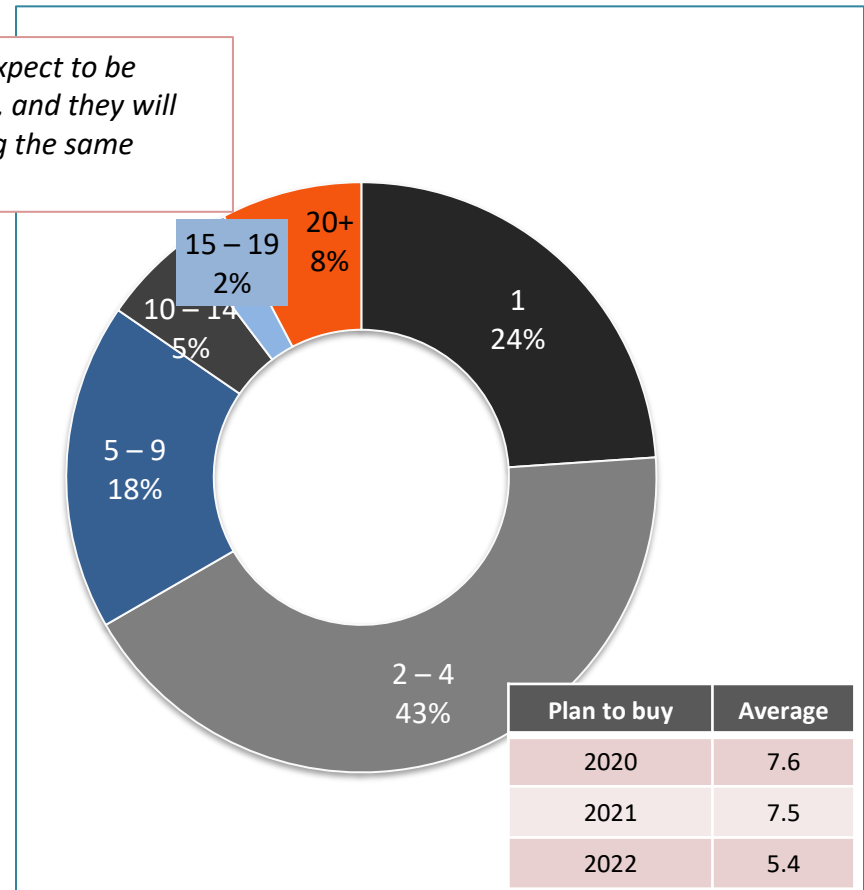
Lift truck purchasing

Likelihood of buying/leasing lift trucks within the next 24 months

Number of lift trucks plan to buy/lease within the next 24 months



More companies expect to be acquiring lift trucks, and they will be buying or leasing the same number of units

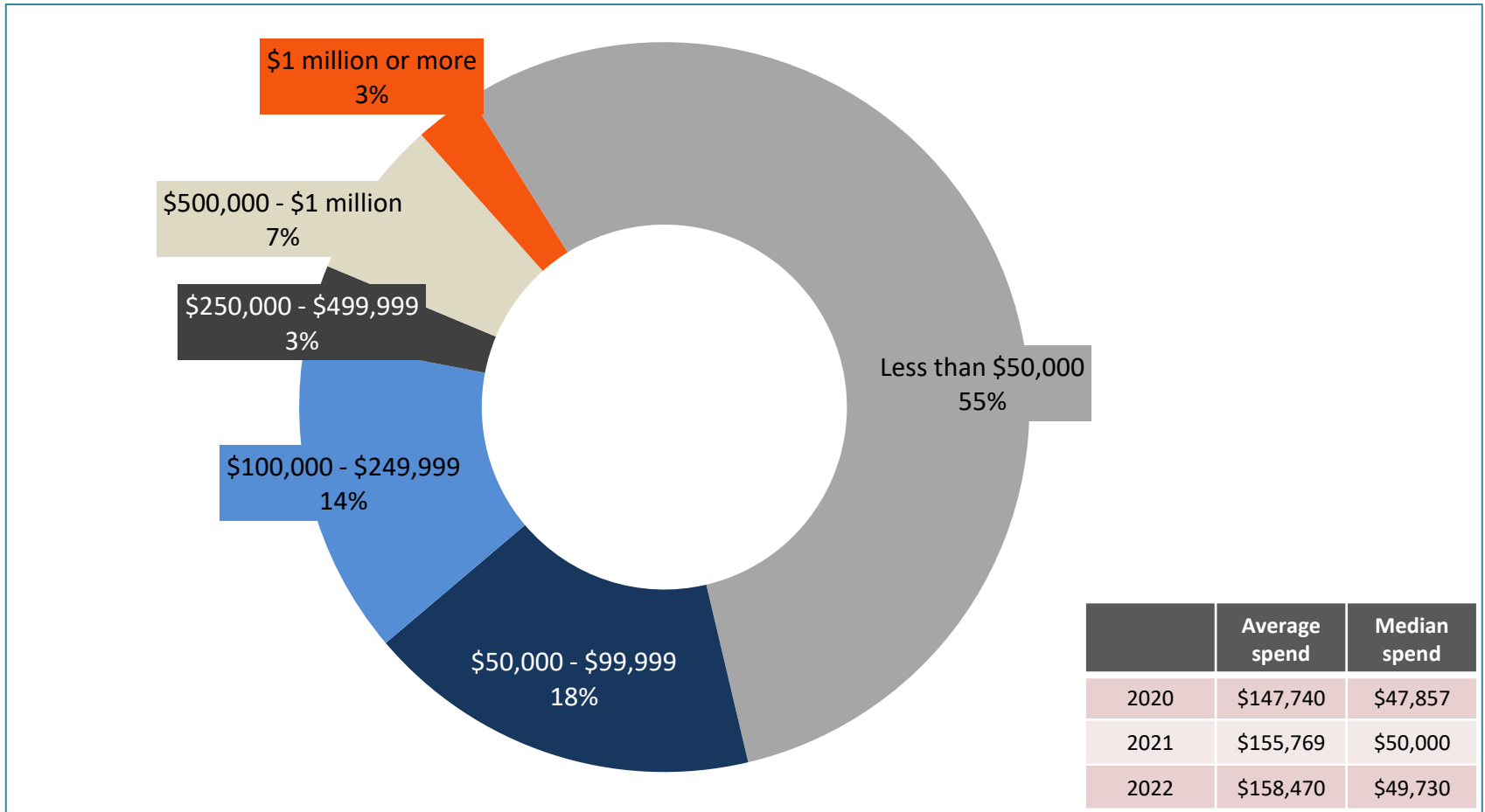


Are you likely to buy or lease lift trucks within the next 12 - 24 months?

How many lift trucks do you plan to buy in the next 24 months?



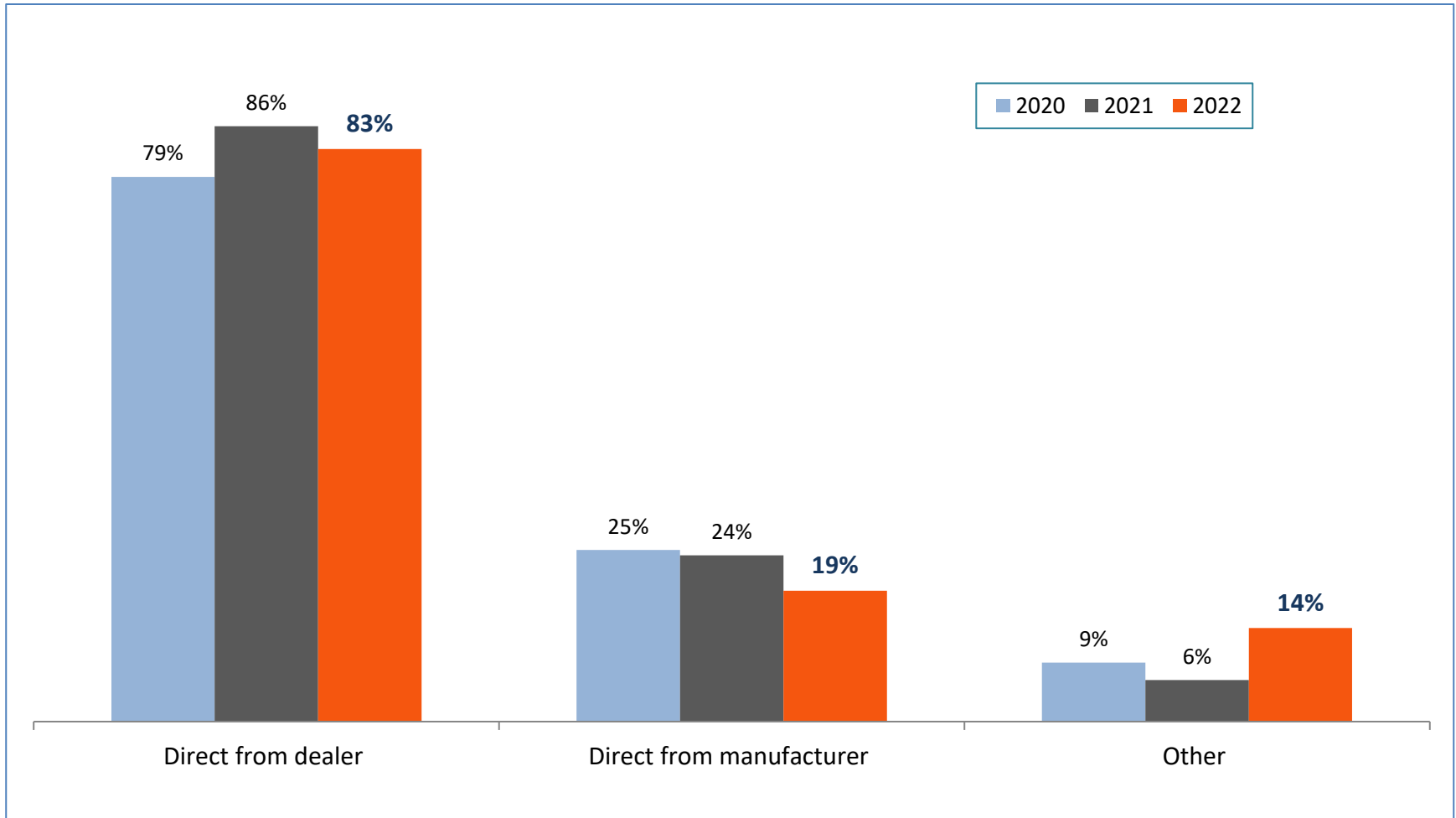
Spending plans for the upcoming 12 months



How much do you plan to spend on lift trucks in 2022?



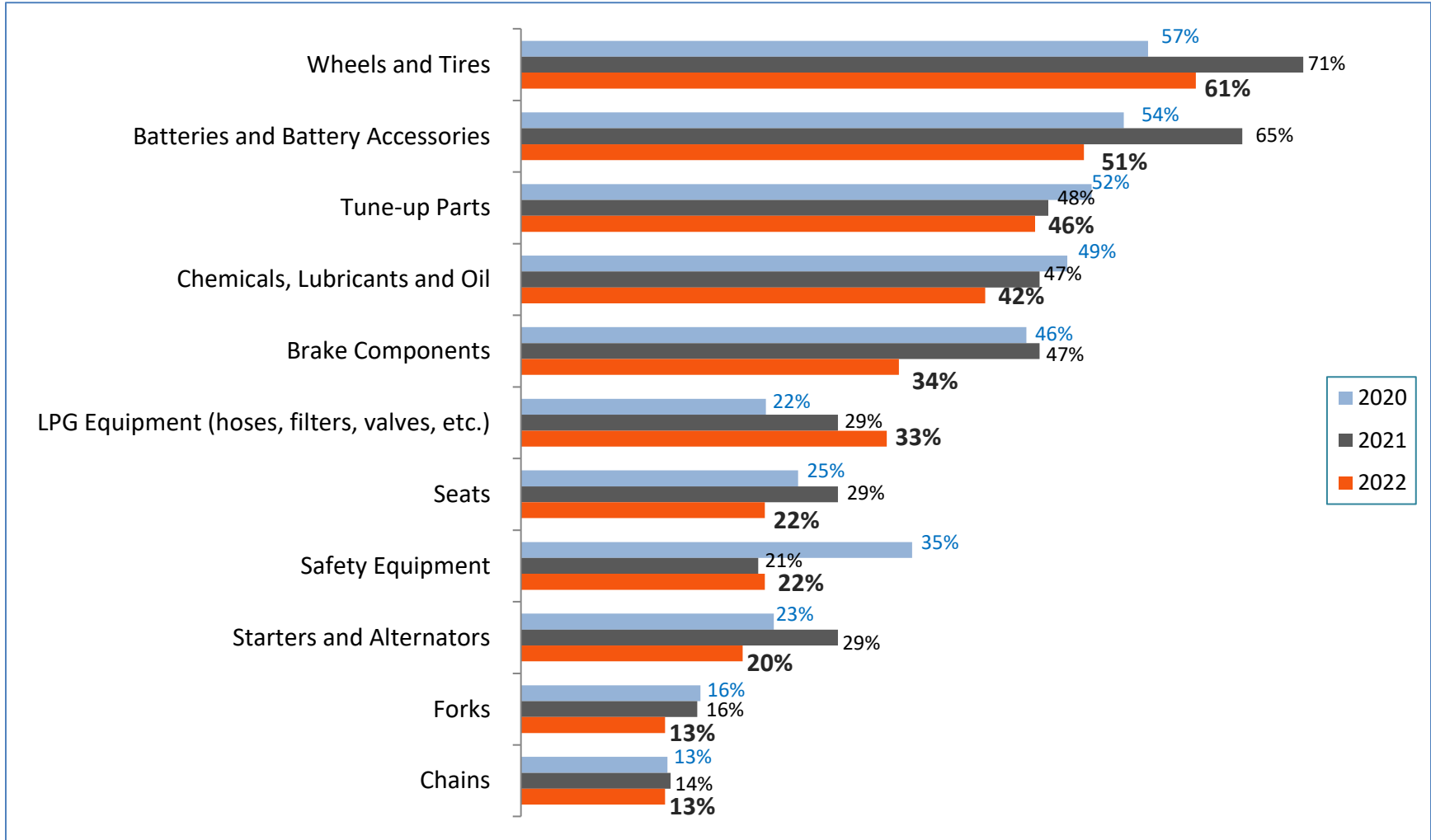
Sales channels



From which channel(s) do you commonly purchase lift trucks?



Parts likely to purchase or replace



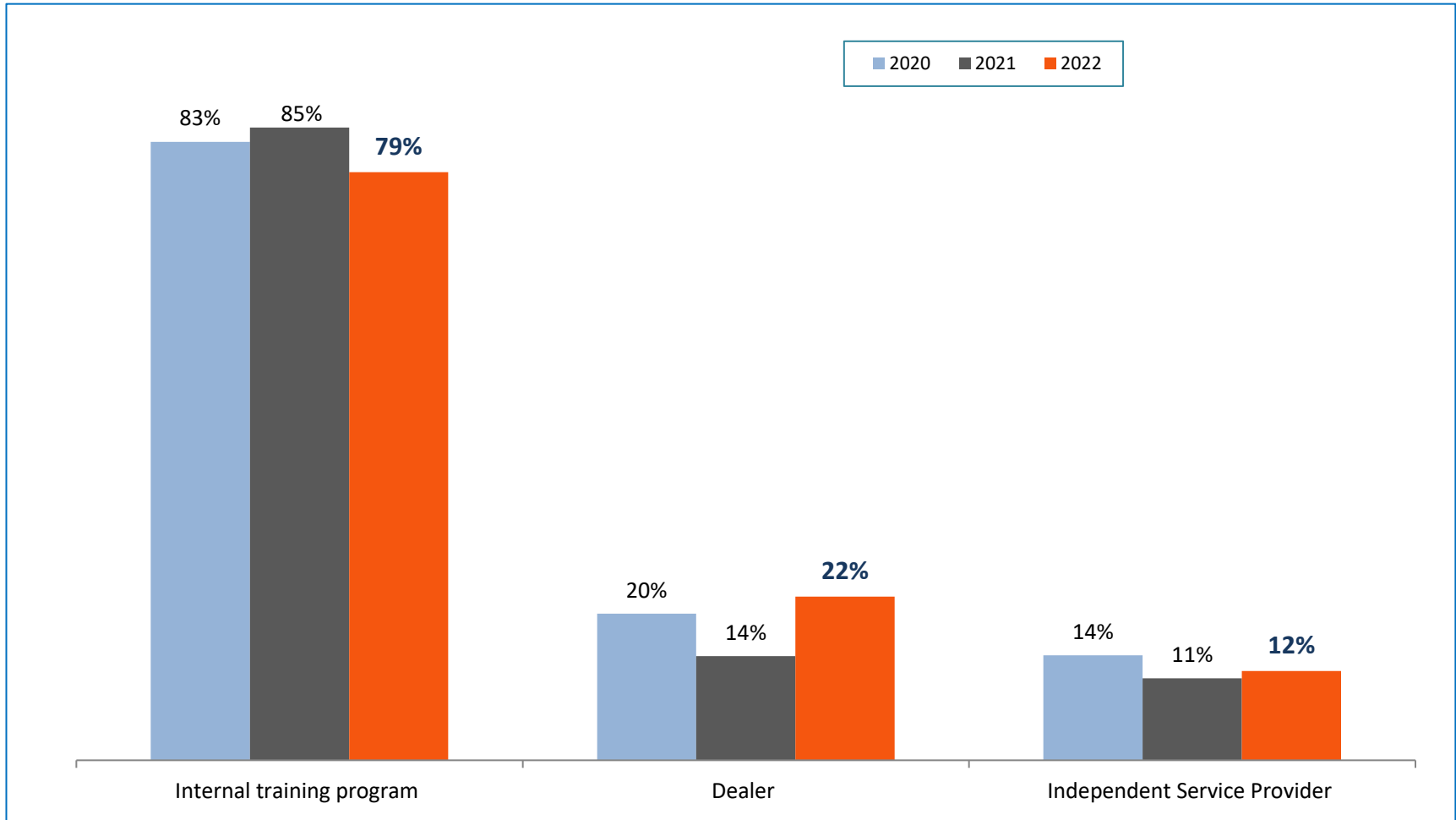
Note: Multiple answers accepted

Which lift truck parts are you likely to purchase/replace in the next 12 months?

June 2022



Companies train operators with in-house training programs

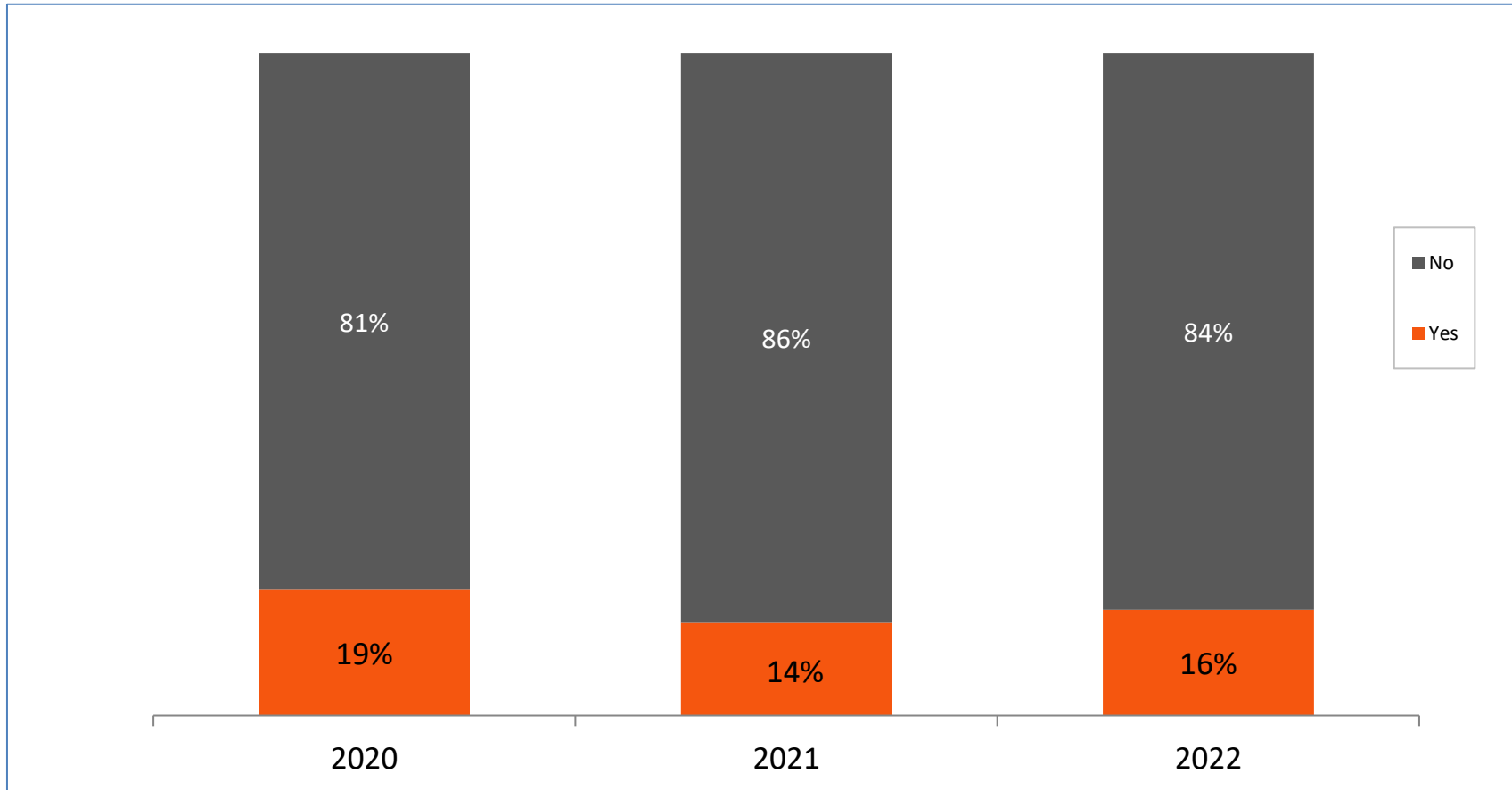


Note: Multiple answers accepted

How are you training your lift truck operators?



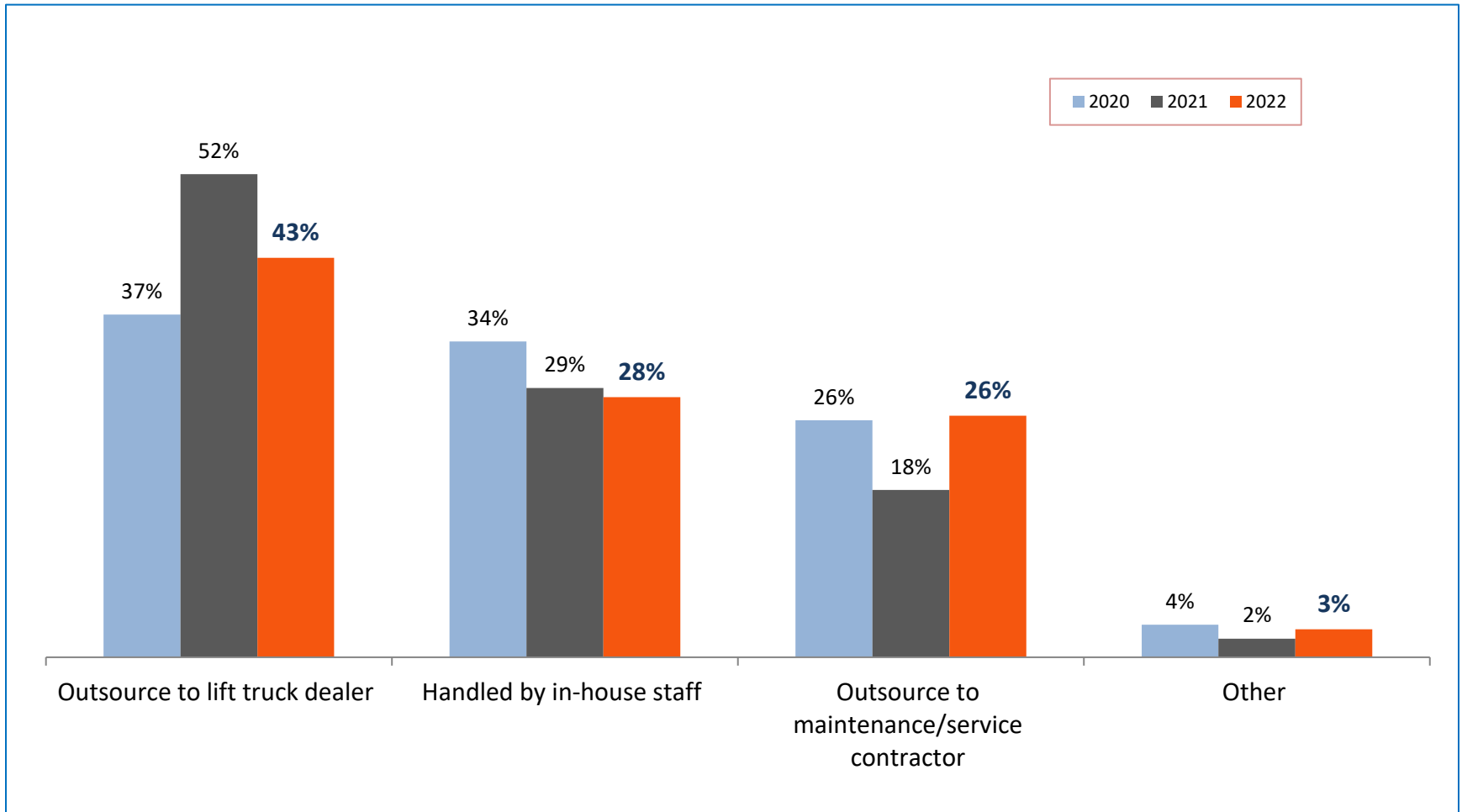
Usage and adoption of autonomous or semi-autonomous forklift technology



Are you using or planning to evaluate/acquire any kind of autonomous or semi-autonomous forklift technology (i.e. dual mode or remote control based that allows for "dual mode" operation of a forklift or AGV -- these can either be operator-driven or will operate autonomously by flipping a switch)?



Servicing and Maintaining lift trucks



Note: Multiple answers accepted

How do you primarily service/maintain your lift trucks?

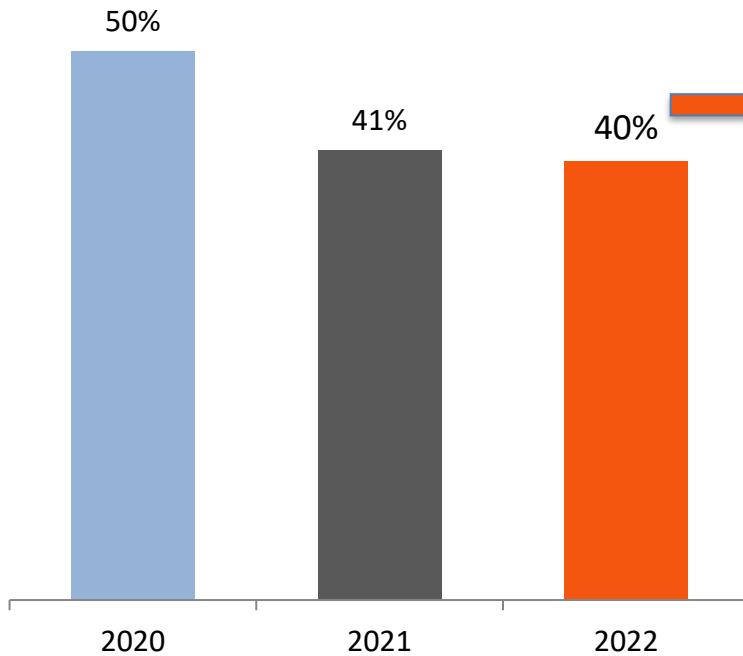
June 2022



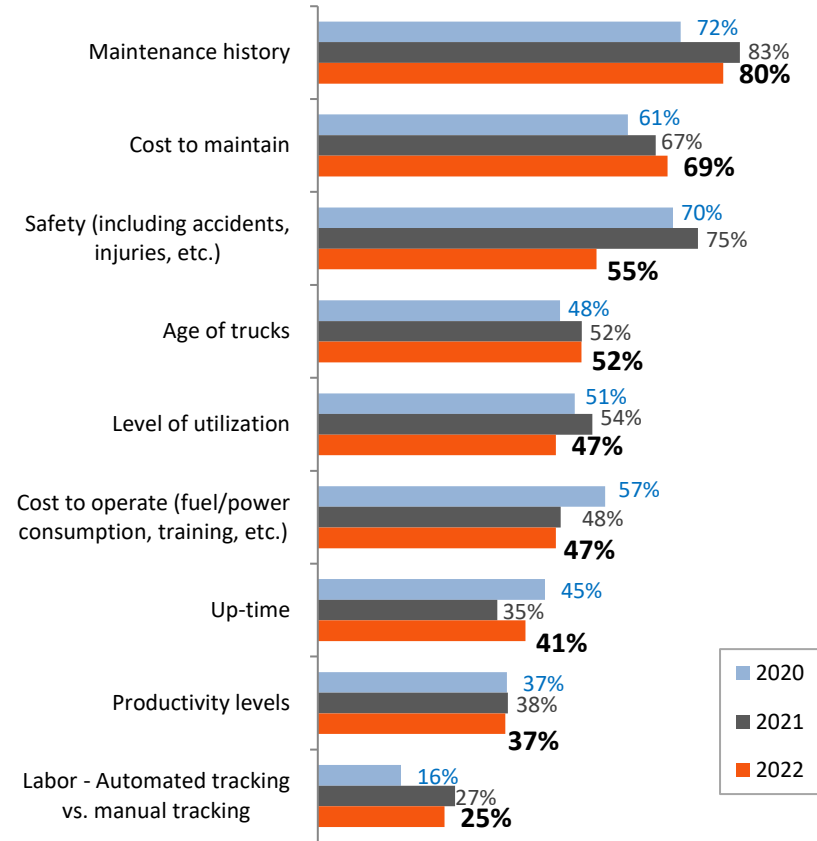
Fleet management technologies target maintenance & cost

Adoption of fleet management software

(% saying they have adopted)



Tracking usage with technology



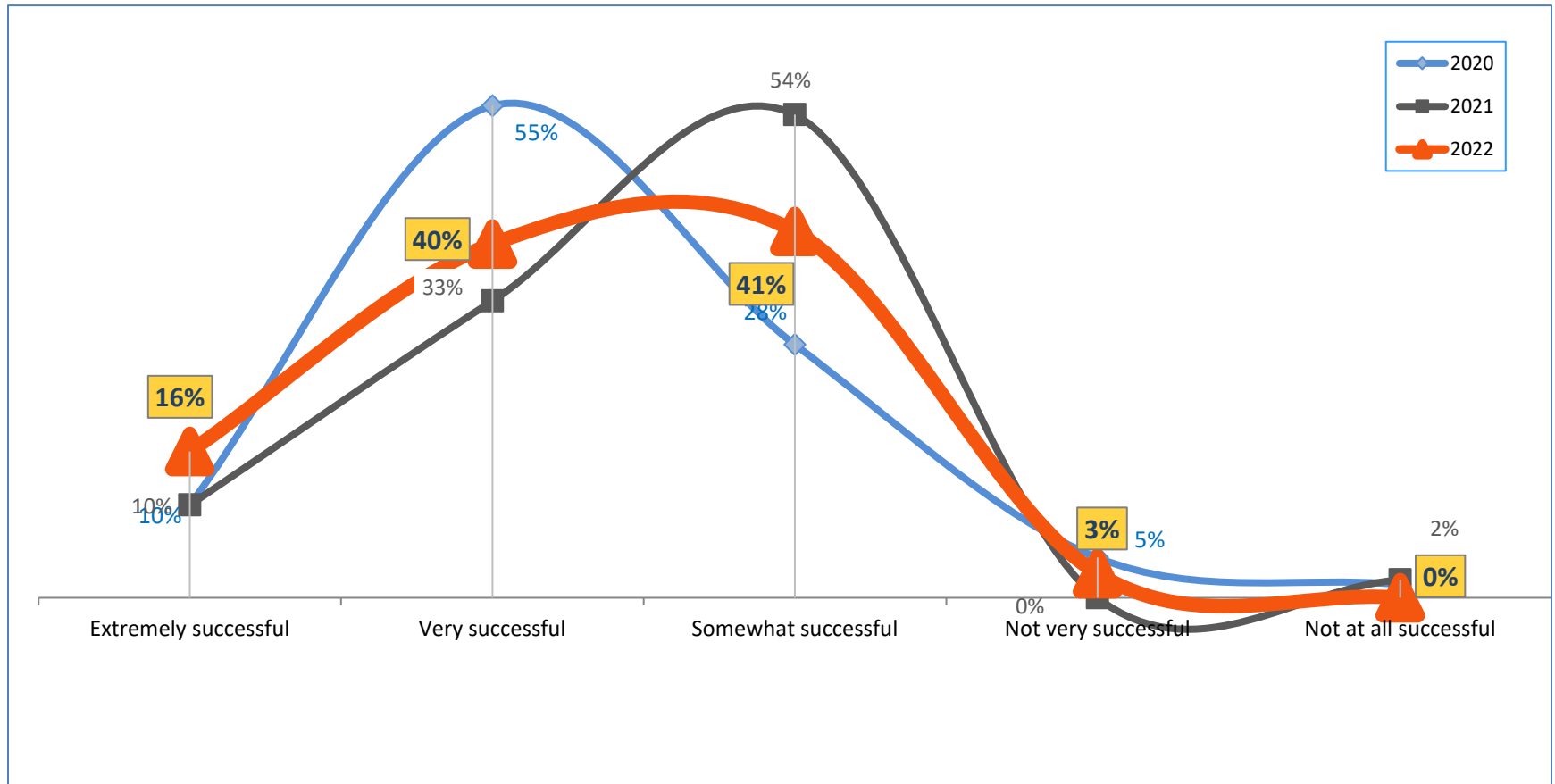
Based on % who have adopted or planning to implement fleet management technology

Note: Multiple answers accepted
If so, what are you tracking?

Have you adopted technology to help you manage your fleet?



Organizations are increasingly finding positive results with their fleet management technologies



How successful is your fleet management technology implementation?



Reasons for neither using nor having plans to implement a fleet management technology application

No need (23)

Small fleet (13)

Don't need (7)

All vehicles used in house with dedicated personnel. Maintenance program established and monitored internally as well as by service provider.

Because our fleet is only two forklifts

Cost too much

Cost. Home grown tracker used.

Dealer does it for me

Dealer Managed

Don't know about it

Don't know much about it

Expense

Facility offers clean environment. Break downs are very few. All units on preventive maintenance contracts.

Fleet is not large enough to require.

Fleet is spread out over 30 locations

Focused on implementing a new ERP system

Forklifts are used for fleet services and equipment repairs. Forklifts are used daily at 4 different locations one on one management works fine.

Four forklifts and three full time maintenance personnel

Hasn't been an issue so far.

Have no need at this time

I have a really small fleet and we don't put a lot of hours on a machine on a yearly basis.

I have never been approached with a tool to manage forklifts

I am the forklift operator.

Internal program

It's not necessary

Just one truck

Keep records by hand

Why are you not using/don't have plans to implement a fleet management technology application?



Reasons for neither using nor having plans to implement a fleet management technology application [Continued]

Limited units in service
Managed in-house
Most are too complicated
Need to educate myself
No experience with this
No plans to incur the expense of a system. We use a yearly calendar for our maintenance, it is working fine.
Not a top priority other than where it relates to safety.
Older management and limited computer access for the operators.
Only have three units, not a problem keeping track
Operation not large enough yet
Our fleet is relatively small
Overkill
Small feet size
Tech dollars allocated elsewhere
The expense can't be justified.
There are a large amount years between replacement
This is a small outfit. No need to have that added expense.
Too expensive
Unaware of these programs
Unless offered by dealer we'll just use regular scheduled maintenance
We are a small company that manages to grow by conservative decisions
We can easily track ourselves
We do not have enough forklifts for a program like this.
We do not see a need to do this for the small number of PIV we own
We don't have enough forklifts to justify a fleet management application
We don't have the use case to justify the added time and expense
We had limited success with implementation of fleet management applications
We have 2 small facilities and the Lifts are easy to track and maintain
We haven't really looked at any software to help with this

Why are you not using/don't have plans to implement a fleet management technology application?



2022

LIFT TRUCK
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Understanding how to apply the data is the main roadblock to technology adoption

Accurate record keeping
Balancing hours across equipment
Being relatively new to the organization repairs were being done by the maintenance division we're not properly trained on what is needed to keep the trucks running properly I have now taken this ask over
Buy in from daily operators
Buy in from operators
Changing the way operators drive equipment. Every bang and smash is recorded and often requires a supervisor to reset the machine.
Compatibility with legacy systems
Cost of forklifts
Covid
Data entry accuracy
Employee acceptance
Employee participation
Ensuring that there is adequate maintenance both predictive and preventive
Finding the time to allocate to keeping records and analyzing the data, so that it is useful to us.
Getting all staff to recognize the savings opportunity is different than our core equipment categories
Getting everyone trained and up to speed
Getting our dealer to figure out how to use it
Getting proper reports
Getting the correct information to enter into the data base
Haven't setup the program yet
Having time to analyze the data
Keeping a constant monitoring system on the water level in the batteries. Extreme usage tends to require more water for some of the units
Learning to fill in an excel sheet with information.
Making sure safety at the mill is at the forefront of managing
Managing maintenance and total cost
MANPOWER AND TRAINING
Measuring accurately the cost of maintenance and to operate de fork lift.

What would you say is/has been your biggest challenge/obstacle in implementing and/or using a fleet management software solution?



Understanding how to apply the data is the main roadblock to technology adoption [Continued]

Obtaining the right personnel

Others following along

Pre-trips and post-trips are sometimes neglected or done too quickly. Leadership needs to do more regular auditing and reminding of staff operators.

Setting up all the appropriate values (employee, training, certifications, authorized types of equipment, sensitivity of accident tracking, etc.) so the output has coherence and logic.

Staying focused on it without the daily grind getting in the way

Strong WIFI system

The assertively in the diagnosis of error to fix it, it's very common that we need to fail between one or three diagnosis before we found the solution.

The ERP is not working properly

The people behind it

Time and expense for training and acquisition of diagnostic tools manuals

Time and technology

Time constraints

Too many people involved with it. Now we just have two of us and it works great, but it's still time consuming

Training older personnel on the utility of the new technologies.

Untimely breakdowns

Upper level management buying in

User normally resist to change the way they work

Using the data to drive results

When implemented we were way behind the replacement curve, it will take us a number of years to get the fleet to a point where we can replace based on data extracted from fleet management.

What would you say is/has been your biggest challenge/obstacle in implementing and/or using a fleet management software solution?



Respondent Demographics

Primary activity at location

	2020	2021	2022
Manufacturing	41%	39%	38%
Distribution Center	32%	32%	21%
Warehousing	19%	22%	31%
Other	8%	7%	10%

Industry

	2020	2021	2022
Manufacturing	72%	75%	66%
Wholesale Trade	8%	8%	14%
Retail Trade	5%	3%	3%
3rd Party Logistics Provider	4%	4%	4%
Transportation/Warehousing Services	7%	6%	8%
Other Non-Manufacturing	4%	4%	5%

What is the primary activity at your location?

What is the primary product or service at your location?

Company size

	2020	2021	2022
Average # of employees	410	286	296
Average revenues	\$774M	\$507M	\$464M

How many employees are there at your facility?

Which best estimates your company's annual revenues for 2022?