



5 challenges for warehouse management and fulfillment in 2023

**Making sense of AutoStore's
industry benchmarking survey**

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Supply chains have been pushed, pulled, and stretched over the last two years, many times to breaking point. Economic, political, environmental, and sociological disruption have all added untold pressure end-to-end, from manufacturing to shipping, last mile to warehousing, and everywhere in between.

2023 promises to be another year of flux with the combined threats of rising inflation, recession biting, the push toward sustainability, and ever-increasing customer expectations.

Our state of the market survey has unearthed a raft of insights into how organizations are responding and rising to the challenge.

The fact that rising costs are a key concern won't be news to anyone, of course. More surprising, however, is the sheer number of respondents who say they have AS/RS (Automated Storage and Retrieval System) technology in place or are looking at installing it within one year. Our survey covered businesses with an annual turnover of \$25 million plus, so perhaps the maturity of respondents has affected the data to a degree. Nevertheless, 88% of respondents saying they either have or will have AS/RS tech installed in the next 12 months is a phenomenal uptake. And one which

has ramifications for all businesses in the warehousing space.

With a drive towards more efficient operations, flexibility, visibility, and beyond, it's great to see people looking to warehouse tech to take some of the weight. It does mean, however, that while warehouse technology is still a competitive advantage, it's more of a must have than a nice to have. And investing in innovation is now a hygiene factor if you want to continue to thrive.

It's also interesting to see big picture challenges dominating concerns while slightly more operational issues like accurate data, reliable machinery, and accurate picking are taking a mental back seat. In times of turmoil, it can be easy to get distracted by the macro at the detriment of the micro. Warehousing, however, lives and dies by everyday operational delivery.

There's plenty more insight over the next pages, so enjoy the report.



Marcus Mogéus

Chief Marketing Officer,
AutoStore

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Introduction

In December 2022, we gathered the thoughts, opinions, and experiences of over 300 senior business and operational decision makers in the industry — from CEOs and COOs to order fulfillment and logistics directors — to gauge how they're approaching the next 12 months.

We looked at companies of all sizes and across multiple industries — fast-moving consumer goods (FMCG), healthcare and pharma, manufacturing, automotive, and retail — to get a broad view on the challenges now, and the focus areas ahead.

This report takes the survey results and pulls out the five biggest stories from the data. Over the course of the report, we highlight the key challenges and opportunities for 2023 alongside commentary, practical advice, and useful takeaways from experts in the field.

The survey at a glance

Survey size — 320 respondents

C-Suite — CEO, CTO, COO, CIO

Operational — Head of Logistics, Director

Turnover — From \$50M - +\$250m PA

Geos — North America, Europe, Asia Pacific

Industries — Automotive, FMCG, Manufacturing, Retail & Wholesale, Healthcare & Pharma

01

Rising costs are a challenge

(and there are multiple
strategies to tackle it)

KEY TAKEAWAYS

- Energy (32%) and labor (27%) costs are the biggest global challenges to warehouse professionals.
- Efficiency is key with 88% looking to AS/RS tech to make a difference.
- A focus on customers (34%) and technology (31%) are high on the priorities for tackling these challenges.
- 43% say space saving/utilization will be mission-critical to their business.



What the survey says:

When it comes to 2023 challenges, it's little wonder that our respondents are most concerned about rising costs — energy (32%) and labor costs (27%) occupied the top two spots.

32% of respondents cited energy costs as their biggest challenge

27% of respondents cited labor costs as their biggest challenge

European respondents have been hit particularly hard by an energy crisis exacerbated by the war in Ukraine compared to counterparts in North America (NA) and Asia Pacific (APAC). That's reflected by the 44% in Europe who cited it as their top challenge compared to 24% in the other two regions.

Conversely, rising labor costs are more of a concern in NA (27%) and APAC (34%) compared to Europe (22%). These figures are undoubtedly linked to the sixth most pressing concern for businesses — labor or skills shortages. The labor market has been volatile over the past three years and the supply chain industry has a huge task to either attract new people or look to automation as an alternative solution.

Further down the list, but equally concerning for many, is the rising cost of real estate (15%). Traditional warehouse space is costing companies more, and there are clearly big decisions to make around warehousing and fulfillment centers that can operate efficiently while meeting consumer demand and expectations.

Meeting the challenge

So how are companies tackling this issue?

34%

of respondents cited improving customer satisfaction levels as the top development area

88%

of respondents either have or are planning to install AS/RS solutions in the next 12 months

1. Through customer experience (CX)

Improving customer satisfaction levels (34%) is the top development area for businesses over the next 12 months. Speed is also there at 30%. It's great to see that, despite those macro-economic challenges, our respondents still have a clear view of what matters most — the customer. Through the warehouse lens, CX means meeting increasing customer demands around availability, delivery, and returns.

2. Efficient warehousing

Equal second to CX as focus areas are automation and technology (31%) and workforce efficiency/productivity (31%). This need to drive down labor costs and operate more efficiently is perhaps why 88% of respondents either have or are planning to install AS/RS solutions in the next 12 months.

3. Location, location, location

In the retail sector, continued growth in online spend can help outweigh cost pressures. In this landscape, the best-located space, close to the consumer, in dense urban markets become more important. But rents on this warehouse space are significantly higher. Space efficiency, again, becomes a vital battleground in balancing speed, efficiency, and customer expectation.

The expert view

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As with everything as connected as a supply chain, you can't pull one lever without having an impact on other crucial areas. Take real estate costs, for instance. Sure, you could move operations into the middle of nowhere and save vast sums on ground rent.

But what impact does that have on the customer experience? Or the cost of transportation?

Organizations are rightly worried about rising costs, but the solutions need to have minimum impact on the end customer.”



Jon Schechter,
Business Development Manager,
AutoStore, North America



02

ESG initiatives are key

But only if they're value-led

KEY TAKEAWAYS

- Sustainability is the second biggest priority for 2023 with 31% of respondents.
- 55% of respondents are focusing on sustainability to increase energy efficiency.
- Sustainability initiatives need a viable business benefit to stick.
- Customers need to think beyond energy efficiency to drive true sustainability.



What the survey says:

31%

of respondents cited sustainability as their priority for 2023

13%

only, say sustainability is an attribute they look for in AS/RS providers

Behind customer satisfaction improvements (34%), sustainability is the second most important priority alongside both technology investments and workforce productivity (31% each).

In tough financial conditions, it was surprising to see sustainability feature so highly, particularly when compared to more operational concerns like supply chain agility (24%) and improving throughput performance (16%). A deeper dive into the data may hold some answers.

When asked about the specific ESG initiatives our respondents are embarking on, 55% cited increasing energy efficiency, the most popular reason by far. Behind that at 46%, was reducing waste from damaged or perishable goods. The next was employee wellbeing and mental health (43%).

It's no coincidence that all these areas have a direct impact on a business's bottom line — through tackling costs, reducing waste, and improving the employee experience. ESG efforts increasingly need to drive value to gain traction within organizations.

This trend is reflected in further data sets. When asked about the attributes they look for when choosing AS/RS providers, our respondents put sustainability way down the list (13%) compared to reliability (24%), simplicity of use (22%), and data capabilities (19%).

This could mean two things: 1) Companies don't consider AS/RS as a significant factor in their sustainability efforts (unlikely as most will understand the impact of their end-to-end supply chain on Scope 1, 2, and 3 emissions). Or 2) They are focused on business results and mostly consider sustainability when it contributes to wider goals or the bottom line.

The good news: a focus on energy efficiency, space optimization, automation, and reliability can be good for both planet and profit.

Meeting the challenge

So how can companies approach sustainability and drive value?

1. Using legislation positively

From COP27 to the G20, regulatory bodies and governments are working to make ESG disclosures mandatory for business. The direction of travel is clear, and the sooner businesses react, the better. You could view these guidelines as restrictive, but they provide a vital blueprint for action, helping focus ESG efforts for the foreseeable future.

2. Build for the long haul

As shown by the survey, when companies consider sustainability, they often think more about energy consumption and efficiency than anything else. But when looking at AS/RS solutions (as 92% of respondents are), many ignore the longevity of the equipment they're investing in.

Many times, cheaper alternatives are built from equipment with a shelf life of 10-15 years meaning you need to rip and replace not far down the line. When looking for warehouse tech, you need solutions that are built to last with cutting-edge materials with no end of life.



The expert view

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The momentum behind sustainability has never been so great as today. The rising number of global climate challenges coupled with the evolution of regulatory standards has meant sustainability initiatives, and reporting, are now mandatory for businesses. With this momentum comes increased accountability – our practices are under the microscope. Greenwashing, green-wishing, or the darker arts of green-hushing are likely to be damaging to businesses in the long-run. Big initiatives are inspiring, but it's the action that matters. Get it wrong, and the penalties can be substantial.

Even if decision makers underscore that sustainability initiatives are prioritized mainly when contributing to wider goals or the bottom line, it's fantastic that ~ 1 in 3 cited the subject as their priority for 2023. I do think that an increasing number of brands agree that business objectives and sustainability objectives can go hand in hand. At AutoStore, we aim for growth and to be a part of the solution to create a sustainable world. It requires new thinking and that we acknowledge the need to make improvements in our own supply chain and operations. My advice for others is to ask practically: “What can I do today that will help our business and the planet most over the long term?”



Agnethe Brown Erland,
Sustainability Manager,
AutoStore

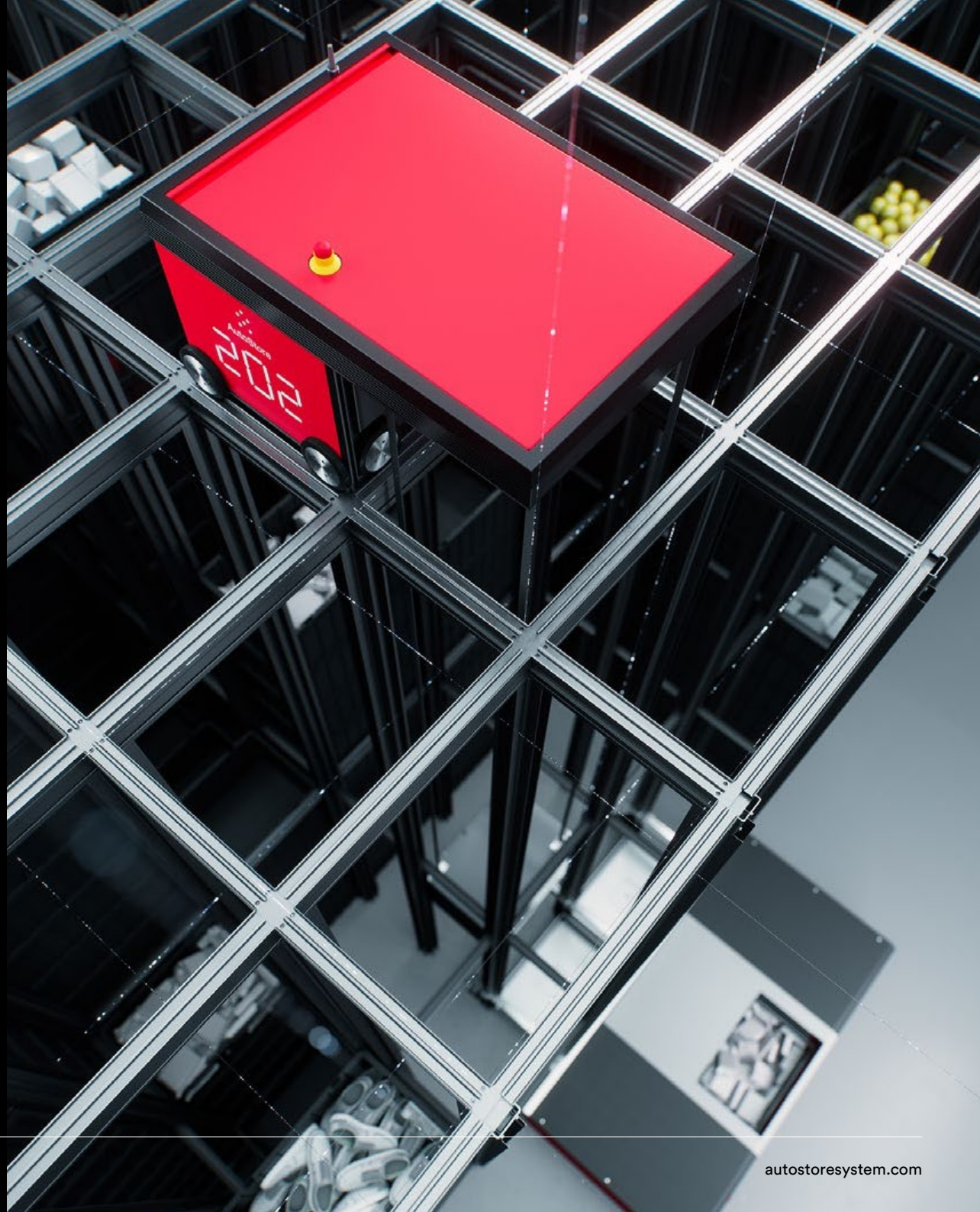


03

AS/RS is no longer a nice to have

KEY TAKEAWAYS

- Only 2% of those surveyed aren't looking at AS/RS solutions for their warehousing.
- The tech uptake is evenly spread across solutions between older systems like Shuttle (46%) and newer solutions like AMR (43%) and Cubic (40%).
- Automation is still a competitive advantage, but it's moved from a nice to have to a must have.
- Those not moving now need to act faster just to keep up.

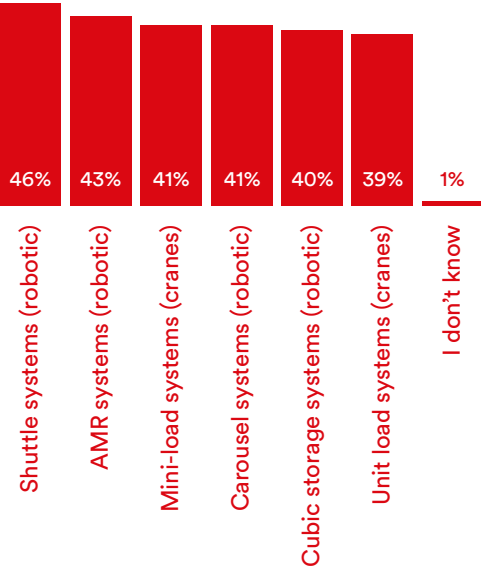


What the survey says:

88%

of respondents either have AS/RS solutions in place or are planning to implement them in the next 12 months

Market breakdown by type of AS/RS solution. Multiple selection per client.



32% of our respondents have AS/RS systems in place already. But in a somewhat surprising result, 56% are making plans to implement them in the next 12 months. That’s 88% of respondents that will have AS/RS by 2024. On top of that, 10% say they are researching the tech. Which leaves only 2% who have no plans to install it at all. That’s a phenomenal uptake.

While the number of people who have AS/RS solutions in place is only slightly higher than data from our previous audience research, the number that will have the tech installed within 12 months has rocketed.

It could be that respondents are overestimating their investment, counting simple automation such as sorters, hand scanners, or box-making machines as AS/RS. But the data is the data so let’s take it at face value: AS/RS isn’t the future, it’s the now. And it’s a necessity just to keep up with the rest of the industry.

So where are businesses directing investment? There isn’t a huge disparity between the technologies people are interested in — Shuttle systems come out on top (46%), AMR is a close second (43%), the cubic systems offered by AutoStore is the fifth most common but even that has 40% of the vote.

What is slightly more surprising is the popularity of relatively old technologies like Shuttle (46%), Mini-load, and carousel systems (both 41%). If this is where companies are continuing to invest, there are huge advantages to looking at more scalable and flexible solutions.

Meeting the challenge

With the trend seemingly showing the move to AS/RS as inevitable, what's the best course of action?

1. Act now but act smart

With the number of businesses saying AS/RS is the way forward, it's crucial that you put plans in place sooner rather than later. But that need to accelerate change has to be tempered with a strategic mindset, ensuring you pick a technology that can be implemented quickly, scale easily, and last for decades to come.

2. Invest in software

AS/RS is one piece of the efficiency puzzle for warehouse operators. But you need good warehouse management software in place too. If you have 20-year-old brittle tech as the foundation for your transformation, it will fall apart. Your investment should start there with the rest to follow.

3. A mindset shift

Shifting to more automated operations means shifting focus from OpEx to CapEx. That demands a substantial outlay upfront which finance often hasn't budgeted for. But most businesses are already spending vast sums in OpEx every year through labor costs and keeping old warehouses going. The conversation needs to change within your organization to get things moving.



The expert view

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The rapid rise of eCommerce has created a new mindset among customers and introduced a whole new set of logistical challenges for suppliers.

Within eCommerce consumers often have low patience and high expectations. Especially with regards to transparency and accurate delivery of the right product at the right time.

By automating a warehouse, brands can raise the efficiency of their operations so that they can deliver more goods, faster. Automation also has the added benefit of being highly energy-efficient, which is good for running costs as well as for sustainability.”



Sarah Adenau,
Business Development Manager eCommerce,
AutoStore, DACH

04

Space utilization is vital as belts tighten

KEY TAKEAWAYS

- 92% of the market say space utilization is either ‘extremely important’ or ‘very important’ to their organization.
- The majority of respondents (57%) are currently at 75% or more capacity.
- Do people see AS/RS as a byword for automation?
- Visibility and flexibility are key facets of warehousing and the wider supply chain to optimize.





What the survey says:

Space isn't the final frontier when it comes to warehousing. But it's often the battleground where warehouse professionals find themselves trying to gain vital efficiency gains and competitive advantage.

49%

say warehouse space saving or space optimization is a business priority in the next 12 months

43%

say warehouse space saving or space optimization is mission-critical in the next 12 months

Our survey reflects that 92% of the market saying space utilization is either 'extremely important' or 'very important' to their organization in the next 12 months.

On top of that, when customers are looking at AS/RS providers, space saving or utilization attributes were voted the third most important factor (20%) in future buying considerations, closely behind reliability (24%) and simplicity (22%).

Optimizing existing warehouse space (more capacity/density) was also in our audience's top 10 priorities for 2023. And it closely aligns with the challenge of costs, the need for warehousing to get closer to customers to meet their demands, and the drive for efficiency.

This chart suggests that space utilization levels haven't hit critical concern status yet — only 4% say their warehouse is at 95-100% utilized. 57% say they are currently 75%+ utilized.

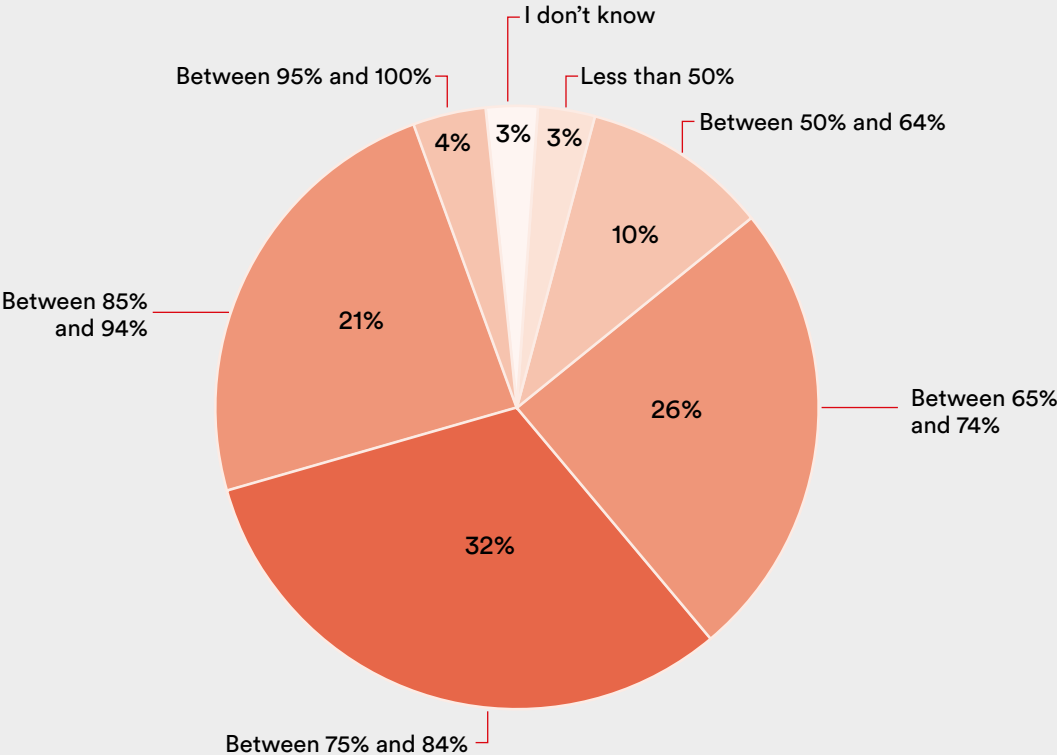
However, the chart might not tell the whole story. First, utilization can, of course, be over 100%. And in our experience, it's often the case. Second, warehouse operators sometimes don't know how to measure or communicate their utilization until it's too late. And last, by way of anecdotal evidence, our teams rarely see warehousing operating below 75% capacity.

Is this information based on hard warehouse management data, or is it an estimation of a snapshot in time? The fact that 92% say that space utilization is so crucial to business suggests that, despite a seemingly rosy picture, the reality may not be so cut and dry.

Whatever the case, there's little doubt that making more of the space you have is vital to driving performance over the next 12 months.

Market Context — warehouse space utilization

Q: What do you estimate your average warehouse space utilization will be at the end of 2022?



Meeting the challenge

With space such a vital business focus, how can you make the most out of your warehouse?

1. Think beyond the warehouse

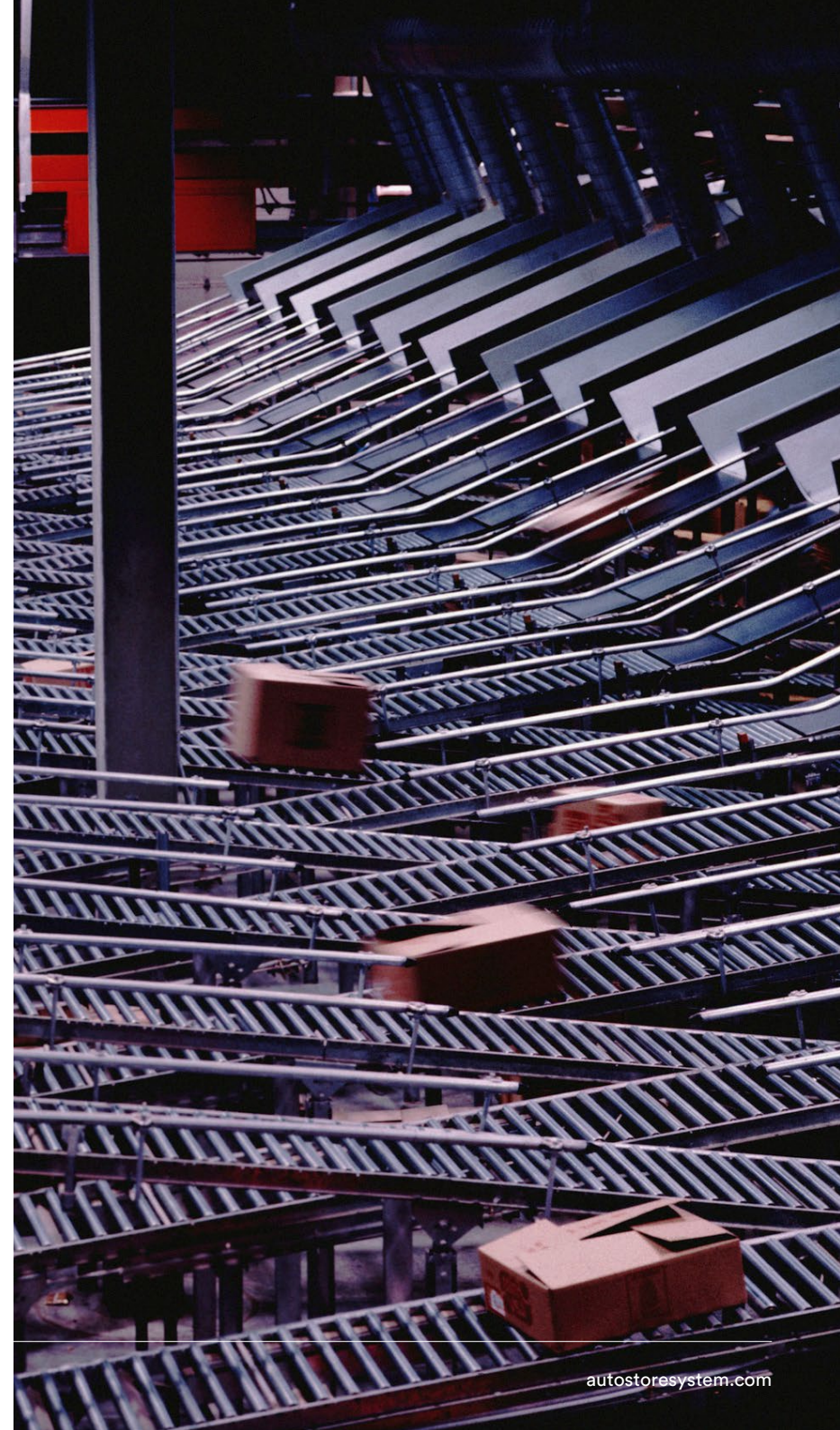
As previously mentioned, some warehouse operators don't know how to measure or communicate their utilization until it's too late. Central to understanding and controlling capacity is accurate data and insights across the supply chain from end to end. Without that bigger picture, capacity is too often reactive than proactive.

2. Scenario planning

With social, economic, and environmental disruption becoming more regular, supply chain experts and warehouse operatives need to plan for the unexpected. With tech investment and accurate warehouse planning software, warehouses can't make plans for every eventuality. But then can ensure contingencies in likely scenarios.

3. Doing more with less

With customer expectations and the cost of traditional space both rising, many businesses are moving to population centers where space is at a premium. These smaller areas demand a new approach to warehousing, one that can only realistically be solved with space saving AS/RS solutions. We know that respondents are already looking at AS/RS and space saving is a high priority.



The expert view

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The past three years has seen a huge explosion and contraction in supply chain demand, the likes of which we haven't really seen before. For this reason, it's unsurprising to see professionals concerned about space utilization. With container shortages and a variety of global 'black swan' events, companies moved from an 'efficiency' position (providing goods 'just in time') to one of 'availability' (the ability to deliver on crucial orders).

This meant a heavy lean on warehousing to stock up on the goods customers needed and wanted. With rising inflation and recession hitting headlines, the pendulum has swung again, many caught in flux between being prepared and being over leveraged on inventory.

There's no right answer to this problem. But the companies best placed to ride the potentially disruptive storms ahead are the ones with the most accurate data, best scenario planning, most optimized spaces and the greatest flexibility to move quickly and efficiently should the landscape change. Companies are already transforming but moving fast is an imperative.”



Clement Yew,
Director of Business Development,
AutoStore, South East Asia



05

Organizations' focus is on the macro

But the micro shouldn't be ignored

KEY TAKEAWAYS

- Only 10% of respondents say accurate inventory is a core challenge for 2023.
- Only 17% cited inventory visibility as a priority for the year.
- It's possible respondents are focusing on the big picture and forgetting the small.
- Open communication from boardroom to shop floor can help drive change.



What the survey says:

10%

only, say accurate inventory data is a core challenge for 2023

17%

only, put inventory visibility in their top 5 priorities

When it comes to 2023's biggest challenges, it's no shock to see rising costs on top. With constant reports of inflation, recession, energy crises, and labor challenges, businesses have a lot of hot button issues on their mind. But at what cost?

One of the interesting findings from our survey was just how comparatively low priority some of the key operational challenges were.

Equipment faults and breakdowns (12%), returns handling (11%), inaccurate inventory (10%), and inaccurate order picking (8%) occupy the four bottom spots for respondents. Only 17% put inventory visibility in their top 5 priorities for the year and 18% have a focus on greater picking accuracy.

Perhaps respondents feel these areas generally work well or that there are more important issues to focus on. But in our opinion, these 'nuts and bolts' all speak to efficiency, reliability, and, by association, order fulfillment and customer experience — vital to running a smooth operation.

These operational areas are easy to put to the bottom of the to-do list. But ignore them for too long and they become serious issues. And only once you feel that pain do you set about trying to fix them. When we're doing site visits, the warehouse operators are quick to tell you about a machine they can't use because it's too unreliable or that when they build another facility, there's no way they're redeploying a particular bit of machinery. These small things matter. And if you solve energy and labor costs, these problems will continue to rear their heads.

It's not necessarily a case of prioritization. But often these more granular issues can have a big impact on tackling the impacts of macro conditions like rising costs and talent shortages that are mostly out of your control.

Meeting the challenge

1. Get granular

There was a broad range of respondents in our survey from the C-Suite to more operational roles, and you might think that strategic respondents may have a different view than those on the shop floor. Further digging into the data, however, shows little difference in opinion between the roles. That could be the edict of directors filtering down, or it could be something else. Either way, it seems that the more everyday challenges are taking a back seat.

2. Open communication

Quite often, strategic leads, the C-Suite, and leadership teams can pass down big picture edicts from the boardroom without understanding the more immediate needs of the warehouse operators. Ensuring open communication channels between all elements of the business can ensure the short-term and long-term needs of the business are met.



The expert view

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It is perhaps not surprising to observe a gap of perception between the boardroom and the shop floor. But there are supply chain challenges today that should see that strategic-operational gap shrink.

Take automation, for instance. Businesses are now working on a much broader set of ROI factors than just FTE optimization. Finding accurate figures will require a detail-oriented collaboration between leadership and operations.

That means a focus on picking accuracy gains, stock accuracy, and employee experience, to name just a few. These factors are not so easy to translate into actual numbers in an Excel spreadsheet. And as topics like scalability (thus easier project phasing), flexibility (capacity to absorb activity peaks), and increasing product range eventually ladder up to the C-Suite, so the need for clearer lines of communications between leadership and ops becomes paramount.”



Laurent Cochet,
Business Development Director,
AutoStore, Southern Europe



Conclusion

The stats tell us that organizations have a clear view of their challenges, a clear view of focus areas, and a clear understanding of the technology that can help them get there.

Too often it's the inertia of trying to tackle all these monumental challenges at once that can stand in the way of progress and innovation. From our research, however, there are some areas that demand focus above others.

Investment in automation and technology is no longer a nice to have, it's a genuine necessity if you want to compete in 2023 and beyond. For those who haven't already, the message is to act now, or find yourselves falling behind quickly.

Changes in sustainability reporting and demands from consumers is going to force all businesses to improve their ESG performance across the board. If you don't have robust mechanisms or initiatives in place now (tangible policies, not greenwashing lip service) then 2023 is the year you need to get your house in order.

Consumer expectations are at an all-time high, and they're not dropping. They don't care about your energy cost or labor costs; they want their goods quickly and simply. The customer's needs are the lens through which you need to make all your warehouse decisions.

With profit margins under pressure, the ability to do more with less lies at the heart of a successful 2023. Space optimization driven by AS/RS isn't the only way to become more efficient. But in so many areas — labor, energy, customer experience, reliability, visibility, and more — it becomes such a huge contributory factor that it's difficult to ignore.

Ready for action?

Get in touch →

