

Warehouse Robotics & Automation

The 2026 Buyer's Guide & Vendor Landscape

A practitioner's guide to evaluating, costing, and selecting warehouse robotics and automation: the system types, how the market and vendors stack up in 2026, what they cost, how to run the selection, and how to de-risk the deployment.

Prepared by **Supply Chain Research** · June 2026 · Vendor-neutral: we take no payment from the vendors covered.

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1. Executive summary

Warehouse robotics and automation is the set of technologies that move, store, pick, and sort goods inside the four walls with less human labor: autonomous mobile robots (AMRs), automated storage and retrieval systems (AS/RS), goods-to-person and grid systems, robotic picking and palletizing, sortation, and the warehouse execution software (WES) that orchestrates them. Driven by a persistent labor shortage, wage inflation, e-commerce, and reshoring, it has moved from a capital-intensive option for a few giants to a core competitiveness question for operators of every size.

This guide is written for supply chain, operations, and logistics leaders evaluating an automation investment, and the engineering and finance teams who must justify and run it. It is deliberately vendor-neutral: we accept no payment from the vendors covered, and we name no single best system, because the right answer depends on your throughput, SKU profile, building, and growth, not a leaderboard. The pages that follow define the technology landscape, size the market honestly across its very different sub-categories, profile the vendors and the fast-moving humanoid and funding story, lay out an evaluation framework, and explain how to keep a deployment on track.

\$30-69B

warehouse automation market in 2025-26,
depending on how the category is drawn

~\$6.1B

invested in humanoid-robot startups in 2025,
up more than 300% year over year (PitchBook)

1M+

robots deployed across Amazon's network as of
July 2025

What the evidence says

Three distinct categories, three very different market sizes. Warehouse automation (broad) is sized at roughly \$30B to \$69B, AS/RS at about \$10B, and AMRs (narrow) at roughly \$3B to \$5B. Always check which category a figure describes before comparing.

2025 was a concentrated recovery, not a broad one. A handful of mega-customers drove vendor fortunes: Dematic, Toyota Industries Logistics, and TGW saw order intake jump 50 percent or more, while AutoStore and Honeywell's warehouse business contracted, as smaller buyers paused on tariff and economic uncertainty.

Humanoids crossed from demo to revenue. Agility Robotics' Digit moved more than 100,000 totes in a live GXO deployment, and investors poured about \$6.1B into humanoid startups in 2025, though warehouse-scale humanoid work remains early.

The software is the durable advantage. Warehouse execution software and robotics orchestration, not the robots themselves, are often the more strategic, longer-lived investment, and fleet-interoperability standards such as VDA 5050 are reducing single-vendor lock-in.

Economics increasingly favor flexibility. Robotics-as-a-service and incremental AMR fleets lower the entry barrier versus fixed AS/RS, and most operators should sequence automation from their highest-labor, highest-volume processes outward.

2. What warehouse robotics and automation is

Warehouse automation spans a spectrum from fixed mechanical infrastructure to flexible, intelligent robots. Getting the categories right is the first defense against a costly mistake, because the systems differ enormously in cost, flexibility, throughput, and the building they require.

The main system types

- **AMRs versus AGVs:** autonomous mobile robots navigate dynamically using onboard sensing and mapping, with no fixed infrastructure, while automated guided vehicles follow fixed paths such as magnetic strips or floor markers. AMRs are the faster-growing, more flexible class.
- **Goods-to-person (G2P):** systems that bring inventory to a stationary picker, cutting the walking that dominates manual picking labor.
- **Automated storage and retrieval (AS/RS):** shuttle systems, mini-load and unit-load cranes, and vertical lift modules and carousels that store and retrieve goods at high density.
- **Grid and cube systems:** dense stacked-bin grids, such as the AutoStore cube, that maximize storage per square foot.
- **Robotic picking and palletizing:** robotic arms that pick individual items or build and break down pallets, increasingly guided by AI vision.
- **Sortation and conveyance:** automated sortation and transport of goods between zones.

The orchestration layer

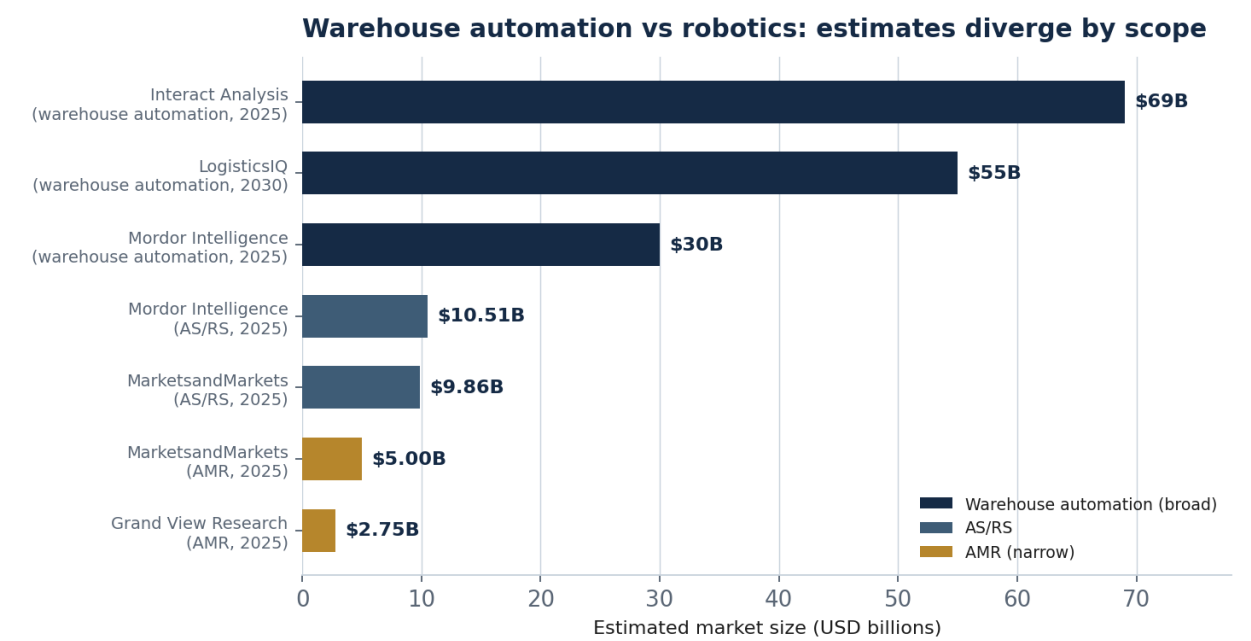
Hardware is only half the system. Warehouse execution software (WES) and robotics fleet-management or orchestration software are the brain that sequences work, balances robot fleets, and integrates with the warehouse management system and the broader supply chain. This software layer is frequently the more strategic and longer-lived investment than any single robot, and it is where multi-vendor fleets are coordinated. The emerging VDA 5050 standard defines a common interface between AMRs and fleet managers, reducing the single-vendor lock-in that historically came with robotics.

Capital systems versus flexible robotics

The central trade-off runs between fixed, high-throughput capital systems and flexible, incremental robotics. AS/RS and grid systems deliver the highest density and throughput but require heavy capital, long build times, and a relatively stable SKU and volume profile. AMRs and modular robotics deploy faster, scale incrementally, and adapt to change, often as an operating expense through robotics-as-a-service, at the cost of the absolute density a fixed system can reach. The right design is usually a blend matched to the operation, not an ideological choice between the two.

3. The market in 2026

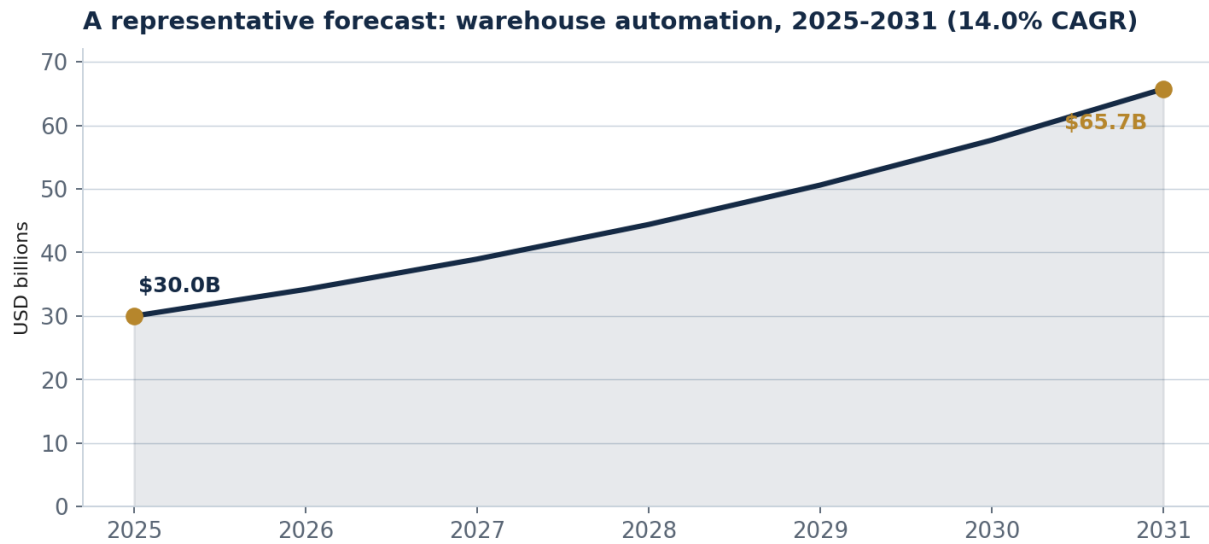
Warehouse automation is large and growing, but its sub-categories are sized very differently, and conflating them is the most common source of confusion. Broad warehouse automation, AS/RS, and AMRs are distinct markets with distinct growth rates. Treat the figures below as directional and check the category before comparing.



Source: Supply Chain Research analysis of published estimates, 2024-2026. Warehouse automation, AS/RS, and AMR are distinct categories.

Figure 1. Published market-size estimates by category. Warehouse automation, AS/RS, and AMRs are not the same market.

Category and firm	2025-26 size	Forecast	CAGR
Warehouse automation, Interact Analysis	~\$69B (2025)	growing	~
Warehouse automation, LogisticsIQ	(2030 target)	\$55B / 2030	15%
Warehouse automation, Mordor	\$29.98B (2025)	\$65.74B / 2031	14.0%
AS/RS, Mordor	\$10.51B (2025)	\$16.99B / 2031	8.3%
AS/RS, MarketsandMarkets	\$9.86B (2025)	\$14.80B / 2030	8.5%
AMR, MarketsandMarkets / GMI	~\$5B (2025)	double-digit	14-19%
AMR, Grand View Research	~\$2.75B (2025)	double-digit	14-19%

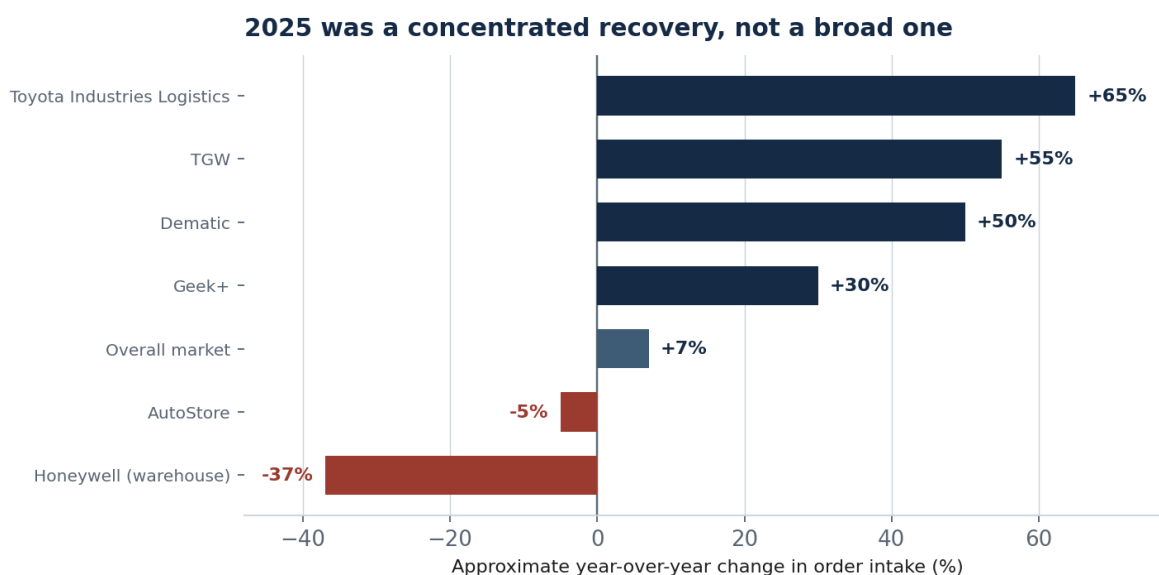


Source: Mordor Intelligence, 2025. LogisticsIQ projects ~15% CAGR; Interact Analysis works from a higher base of about \$69B in 2025.

Figure 2. A representative warehouse-automation trajectory at about 14% CAGR (Mordor Intelligence).

A reality check: 2025 was concentrated

Aggregate growth masked a sharp divergence in 2025. Order intake across the warehouse-automation market grew only modestly overall, but a few mega-customers drove outsized gains for some vendors while others contracted. The pattern below, drawn from Interact Analysis commentary, is the single most important context for reading any vendor's 2025 results: the recovery was concentrated, not broad, as larger buyers invested while smaller operators paused on tariff and macro uncertainty.



Source: Supply Chain Research, drawing on Interact Analysis 2025 order-intake commentary. Figures are approximate and directional.

Figure 3. Approximate year-over-year change in 2025 order intake by vendor. Directional, drawing on Interact Analysis.

Drivers and the AMR caution

The structural drivers are powerful and durable: a persistent warehouse-labor shortage, wage inflation (average United States warehouse wages rose about 7.4 percent year over year to roughly \$16.95 per hour in 2024), e-commerce and same-day expectations, and reshoring of manufacturing and distribution. Amazon, which deployed its one-millionth warehouse robot in July 2025 and introduced a generative-AI fleet-coordination model that improved travel efficiency about 10 percent, illustrates the ceiling of what automation can reach at scale. The caution is that growth is not linear: in mid-2025 Interact Analysis cut its AMR forecast, trimming the five-year growth rate from roughly 26 percent to about 21 percent on tariff and economic uncertainty, a reminder that adoption is sensitive to the macro cycle.

Regions

The United States, China, and Germany together account for more than half of global demand (LogisticsIQ). North America leads AS/RS demand by value in several estimates, while Asia-Pacific is the fastest-growing region for both automation and AS/RS.

4. The vendor landscape

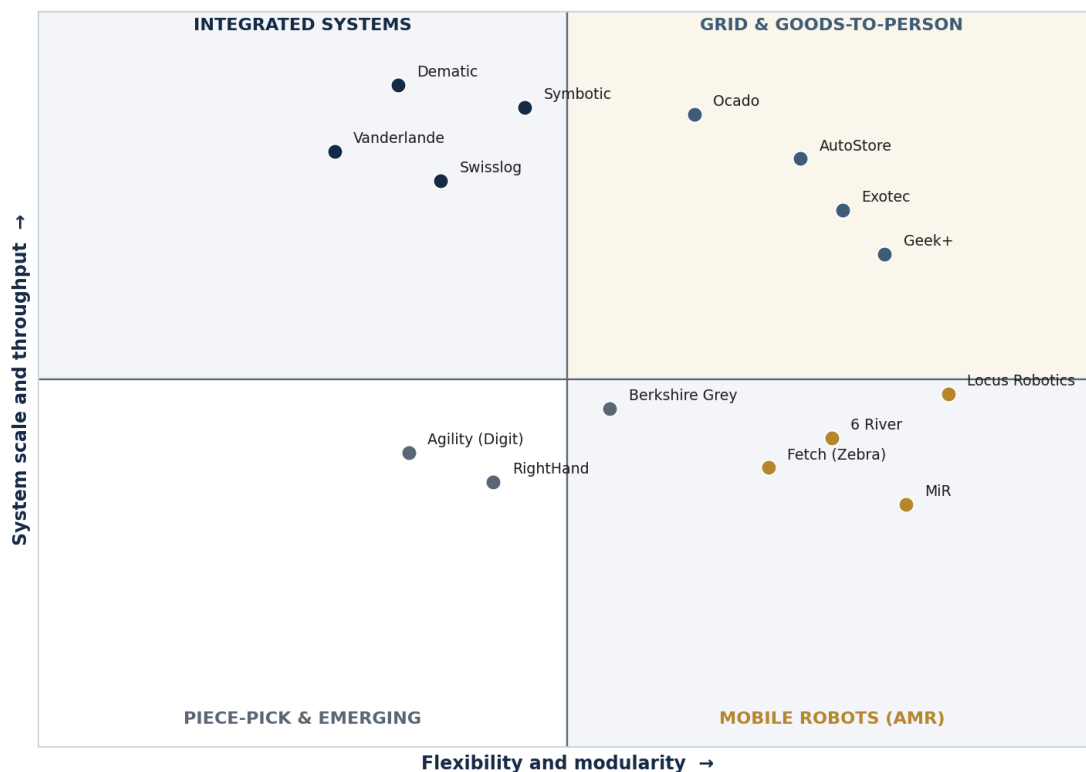
The field spans fixed integrated systems, dense grid and goods-to-person platforms, flexible mobile robots, robotic piece-picking specialists, and an emerging class of warehouse humanoids. This section profiles the vendors that matter in 2026, grouped by the role they play, with strengths and limitations noted for each.

What the analysts say

Unlike enterprise software, warehouse robotics has no single dominant ranking. The most authoritative market analysis comes from specialist firms.

- **Interact Analysis and LogisticsIQ** are the leading market analysts for warehouse automation and robotics, and are the primary source for sizing, order-intake, and forecast data; ARC Advisory Group also covers mobile robots.
- **Gartner** publishes a Hype Cycle for Mobile Robots and Drones rather than a Magic Quadrant for warehouse robotics, reflecting how fast and fragmented the category still is.
- **Vendor-specific recognition** includes QKS Group's 2025 SPARK Matrix, which named Locus Robotics a global AMR leader. Treat any single vendor accolade as one input, not a verdict.

Warehouse robotics and automation landscape, 2026



SCR's directional interpretation of the landscape, not an analyst evaluation. Placement reflects typical system scale and deployment flexibility, not vendor ranking.

Figure 4. A landscape view of the field by system scale and flexibility. SCR's directional interpretation, not an analyst ranking.

Integrated systems and grid platforms

Symbotic

A high-throughput, AI-driven case-handling automation provider anchored by Walmart. Symbotic reported a backlog of roughly \$22.5B in late 2025, acquired Walmart's Advanced Systems and Robotics business in January 2025 for \$200M cash plus up to \$350M contingent, and formed GreenBox, a SoftBank joint venture committed to at least \$7.5B over six years in which Symbotic holds 35 percent. Fiscal 2024 revenue reached \$1.79B, up 52 percent. The strengths are scale and a vast order book; the limitation is heavy customer concentration in Walmart and GreenBox, and the company is not yet consistently profitable.

AutoStore

The pioneer of the cube or grid storage model, with roughly 1,950 systems across 60-plus countries by 2026. AutoStore went public on the Oslo exchange in October 2021 at about a \$12.4B valuation, Norway's largest listing in two decades, with SoftBank holding a major stake. The platform delivers very high storage density (vendor claims of up to 400 percent gains) with customer paybacks often cited at one to three years. The limitation showed in 2025, when order intake fell about 5 percent, and the model fits stable SKU profiles best.

Other major integrated and grid providers include **Dematic** (KION, which saw order intake jump about 50 percent in 2025), **Vanderlande** (Toyota Industries, up about 65 percent), **Swisslog** (KUKA), **Honeywell Intelligrated** (whose warehouse business contracted sharply in 2024 before stabilizing), **TGW** (up about 55 percent), **Knapp**, **SSI Schaefer**, **Kardex**, **Exotec** (the Skypod system), **Ocado**, and **Hai Robotics**.

Mobile robots (AMR and AGV)

Locus Robotics

A leading pure-play in goods-to-person AMRs, Locus crossed six billion units picked in October 2025 and raised a \$117M Series F that brought its valuation close to \$2B, with total funding around \$438M. The company added the LocusINTELLIGENCE analytics suite in 2025 and cites two-to-three-times productivity gains and large reductions in workplace injuries. The limitation inherent to person-to-goods AMRs is that they assist rather than replace human pickers.

Other notable mobile-robot players include **6 River Systems** (now part of Ocado, formerly Shopify), **Fetch Robotics** (Zebra), **Geek+** (order intake up about 30 percent in the first half of 2025), **MiR (Mobile Industrial Robots)** (Teradyne), **OTTO Motors** (Rockwell Automation), **Vecna Robotics**, and **Zebra Technologies**.

Robotic piece-picking

Robotic arms that pick individual items, increasingly guided by AI vision, are maturing. **Berkshire Grey** was taken private by SoftBank (a roughly \$375M deal completed in 2023) and partners with players such as Kardex and Locus; a Bealls deployment reported a 33 percent productivity improvement within eight months. **RightHand Robotics**, **Plus One Robotics**, **Dexterity**, **Nimble**, and **Ambi Robotics** round out the field. The decisive variable is the AI behind the gripper, which is why robotics foundation models (below) matter so much to this segment.

Warehouse humanoids (emerging)

Humanoid robots crossed from demonstration to early revenue in 2024-2025, though warehouse-scale work remains nascent.

- **Agility Robotics (Digit)**: signed the first multi-year humanoid robotics-as-a-service agreement with GXO in June 2024, and Digit moved more than 100,000 totes in a live GXO facility, a milestone reached in late 2025.

- **Figure:** raised more than \$1B in a September 2025 Series C at a roughly \$39B valuation, with investors including NVIDIA, Microsoft, and the OpenAI Startup Fund, and a BMW pilot.
- **Appttronik (Apollo):** raised a \$520M Series A extension in early 2026 at more than a \$5B valuation, partnering with Google DeepMind, Mercedes-Benz, and GXO.
- **Amazon:** operates Proteus, Sequoia, and Sparrow systems alongside Digit pilots, within a network exceeding one million robots. Sector funding reached about \$6.1B across 139 deals in 2025, more than triple the prior year.

Consolidation and funding

The space is consolidating and capitalizing at speed: Symbotic's acquisition of Walmart's robotics unit, SoftBank's take-private of Berkshire Grey, Amazon's 2024 hire of the founders and about a quarter of the staff of AI-robotics firm Covariant (with a non-exclusive technology license, widely described as a reverse acquihire), AutoStore's listing and SoftBank backing, Zebra's acquisition of machine-vision firm Photoneo, and a KION partnership with NVIDIA and Accenture on AI robots and digital twins. Ownership and roadmap stability belong in any evaluation.

Vendor summary

Vendor	Type	Best fit	Notes
Symbotic	Integrated	High-volume case handling	Walmart-anchored; ~\$22.5B backlog
AutoStore	Grid / cube	High-density storage	~1,950 systems; order intake -5% in 2025
Dematic / Vanderlande	Integrated	Large turnkey systems	Strong 2025 order growth
Exotec	Grid / G2P	Flexible high-density	Skypod system
Locus Robotics	AMR (G2P)	Flexible piece picking support	6B+ picks; ~\$2B valuation
Geek+ / MiR / 6 River	AMR / AGV	Mobile fulfillment	Incremental, RaaS-friendly
Berkshire Grey	Piece-pick	Robotic item picking	SoftBank-owned
Agility / Figure / Appttronik	Humanoid	Emerging, pilot-stage	Digit live at GXO; heavy funding

5. How to evaluate and select

Because the systems differ so much, the most common mistake is buying a technology rather than solving a problem. Start from your operation, then score candidate approaches against the same defined dimensions, weighted for your profile. A fast-growing e-commerce operation and a stable, high-volume grocery distribution center evaluating automation should reach different answers.

The five evaluation dimensions

1. **Use-case and process fit.** Match the system to the work: storage density, piece versus case versus pallet handling, order profile, and peak behavior. The right tool for dense storage is rarely the right tool for flexible piece picking.
2. **Throughput, density, and scalability.** Quantify the throughput and storage density you need now and at peak, and how the system scales as volume grows, incrementally for AMRs, in larger steps for fixed systems.
3. **Flexibility and change tolerance.** Assess how easily the system adapts to new SKUs, new processes, and a different building. Flexible robotics tolerate change; fixed systems reward stability.
4. **Integration and software.** Evaluate the warehouse execution and orchestration software, integration with your WMS and ERP, and multi-vendor interoperability (VDA 5050). The software layer often outlives the hardware.
5. **Commercial model and viability.** Decide between capital purchase and robotics-as-a-service, model the total cost, and weigh vendor financial stability and roadmap, which matter in a consolidating, fast-funded market.

Capital purchase versus robotics-as-a-service

Robotics-as-a-service (RaaS) converts a large capital outlay into a predictable operating expense, lowers the entry barrier, and shifts some performance risk to the provider; Mordor reports that a large majority of logistics firms are considering pay-per-use models. Capital purchase can be cheaper over a long horizon for stable, high-volume operations. The choice should follow your cost of capital, volume stability, and appetite for technology risk.

A selection process that works

6. **Define the operational problem and data** (volumes, order profiles, SKU velocity, peak, labor cost, and growth).
7. **Shortlist approaches and vendors by use case**, comparing across system types where more than one could fit.
8. **Model throughput and total cost on your own data**, including a robotics-as-a-service option.
9. **Run a pilot or reference visit** at comparable volume and SKU complexity, and validate the software, not just the robots.
10. **Plan integration and change management** before committing, then sequence the rollout.

6. Cost and economics

Automation economics vary by an order of magnitude across system types, and the commercial model matters as much as the sticker price. The table summarizes the broad shape; every number should be validated with vendor quotes against your own operation.

Approach	Capital profile	Economics
AMR fleet	Incremental, OpEx-friendly	Fast to deploy and scale; available as robotics-as-a-service
AS/RS and grid	High capital, longer build	Highest density and throughput; best for stable SKU profiles
Robotic piece-pick	Moderate, cell-based	Targets the costliest manual task; value tracks the AI
Robotics-as-a-service	Operating expense	Lowers entry barrier; shifts some risk to the provider

What drives the return

The benefits cluster in labor, density, accuracy, and throughput. Vendor and case figures point to labor-cost reductions of up to about 30 percent, AutoStore-style storage-density gains as high as 400 percent with one-to-three-year paybacks, picking accuracy approaching 99.99 percent in vertical-lift and robotic cells, and inventory accuracy above 99 percent versus the 90 to 95 percent typical of manual operations. A 2025 Exotec survey reported that 98 percent of warehouse workers felt automation made them more productive, and that workers at automated facilities were about three times more likely to stay long term, a useful counter to the assumption that automation simply displaces labor. All of these figures are vendor- or survey-sourced and should be validated against your own baseline.

Confirm pricing and payback with vendor quotes on your own volumes; published ROI figures are vendor- or survey-sourced and vary widely by operation.

7. Deployment: where programs succeed or fail

Automation is a capital and operational project, and the failure modes are about integration, change, and phasing rather than the robots themselves. Fixed systems carry construction-style risk and long lead times; flexible robotics deploy faster but still demand careful software integration and workforce change.

Why programs struggle

- **Integration with the WMS, ERP, and existing equipment is underestimated**, the most common source of delay and disappointment.
- **The building or process is wrong for the system**, for example forcing a high-density fixed system onto a volatile SKU profile.
- **Throughput is validated in a demo, not at peak**, so the system underperforms when it matters most.
- **Workforce change is neglected**, leaving associates and supervisors unprepared to work alongside robots.

WES	Peak	Phase
the orchestration software is often the longer-lived asset and the harder integration	validate throughput at holiday peak, not in a vendor demo	sequence from the highest-labor, highest-volume process outward

Three principles that separate success from failure

Solve a problem, do not buy a robot. Start from the process and the data, and let the operation choose the technology.

Treat the software as the system. Warehouse execution and orchestration software, and clean integration, determine whether the hardware delivers.

Bring the workforce along. Plan for new roles and training; the evidence is that workers in automated facilities are more productive and more likely to stay when change is managed well.

The role of a systems integrator

Large automation projects are usually delivered with a systems integrator or the vendor's professional-services arm, which handles design, integration, and commissioning. An independent integrator can also keep the design honest and validate the vendor's throughput and payback claims. Treat integrator selection with the same rigor as the technology selection.

A phased rollout

The lowest-risk pattern automates the highest-labor, highest-volume process first, proves the throughput and payback, then extends to adjacent processes and zones. This sequencing delivers early returns, contains capital risk, and gives the operation time to adapt, and it favors modular robotics that can be added incrementally over big-bang fixed builds where the operation is still changing.

8. Trends shaping 2026

Robotics-as-a-service

RaaS continues to reshape adoption by converting capital into operating expense and lowering the barrier for mid-market operators. It is now offered across AMRs and, increasingly, humanoids, and a large majority of logistics firms are evaluating pay-per-use models.

AI and robotics foundation models

The decisive frontier is the AI behind robotic manipulation. Robotics foundation models from firms such as Covariant, Physical Intelligence, and Skild AI aim to give robots general-purpose dexterity, the capability that has historically limited robotic piece-picking. Amazon's 2024 hire of Covariant's founders signaled how strategically the largest operators view this layer.

Humanoids in the warehouse

Humanoids moved from demonstration to early revenue, with Agility's Digit in live GXO operations and roughly \$6.1B invested in the sector in 2025. The realistic near-term role is narrow, high-value tasks rather than wholesale replacement of fixed automation, and warehouse-scale deployment remains early.

Interoperability and orchestration

Fleet-interoperability standards, notably VDA 5050, are reducing single-vendor lock-in by letting robots from different makers share a fleet manager, while multi-agent orchestration and warehouse execution software increasingly coordinate mixed fleets of robots, people, and fixed systems as one operation.

Labor and reshoring

The structural drivers, a persistent labor shortage, wage inflation, e-commerce, and reshoring, continue to pull investment, even as the macro cycle introduces year-to-year volatility in order intake.

9. Segment-specific guidance

The right automation depends on the warehouse profile. The table summarizes what tends to dominate the decision; the notes that follow add detail.

Operating profile	What matters most	Approaches that fit
E-commerce / DTC	Each-picking, peak surge, flexibility	AMR G2P, grid (AutoStore), piece-pick
3PL	Multi-client flexibility, fast ramp	AMRs and RaaS, modular systems
Grocery / cold chain	High throughput, density, temperature	AS/RS, Symbotic, Ocado-style grids
Apparel / retail	High SKU count, returns, seasonality	Grid and G2P, AMRs
Manufacturing / parts	Line-side delivery, dense storage	AMRs/AGVs, AS/RS, VLM
High-volume distribution	Throughput, stable SKUs, density	Integrated AS/RS and case-handling

E-commerce and 3PL operations reward flexibility and fast ramp, which favors AMRs, robotics-as-a-service, and grid systems that handle each-picking and peaks. **Grocery, cold chain, and high-volume distribution** reward throughput and density on stable SKU profiles, the home turf of AS/RS and integrated case-handling such as Symbotic and Ocado-style grids. **Apparel and parts operations** with high SKU counts often blend grid storage, goods-to-person, and mobile robots. The unifying rule is to match the system to the work and the building, not to the newest technology.

10. ROI and the business case

Automation ROI concentrates in labor, space, accuracy, and throughput. Vendor and survey figures should be validated against your own baseline, but the direction is consistent, and the strongest cases combine several levers rather than relying on labor savings alone.

up to 30% labor-cost reduction cited across automation deployments (vendor-sourced)	up to 400% storage-density gains from cube and grid systems, with 1-3 year paybacks (AutoStore)	99%+ inventory and picking accuracy versus 90-95% typical of manual operations
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The value levers

A credible business case usually rests on several levers that compound. Labor savings and productivity come from removing walking and manual handling, often two-to-three-times throughput per worker in goods-to-person systems. Space and density gains let operators store far more in the same footprint, deferring or avoiding new construction. Accuracy improvements cut the cost of errors, returns, and mis-ships, with picking accuracy approaching 99.99 percent in robotic and vertical-lift cells. Throughput and peak resilience protect revenue during demand spikes. And retention improves where change is managed well, since workers in automated facilities report higher productivity and are more likely to stay. The most reliable business case is built on your own labor, space, accuracy, and throughput baseline, with vendor figures used only to size the opportunity, and with the commercial model (capital versus robotics-as-a-service) chosen to fit your cost of capital and volume stability.

11. Frequently asked questions

What is the difference between warehouse automation and warehouse robotics?

Warehouse automation is the broad category covering fixed systems (AS/RS, conveyors, sortation) and robotics; warehouse robotics refers specifically to robots such as AMRs and robotic arms. Market figures for the two differ greatly, so always check which is being measured.

What is the difference between an AMR and an AGV?

An AMR navigates dynamically with onboard sensing and mapping and needs no fixed infrastructure; an AGV follows fixed paths such as magnetic strips. AMRs are more flexible and faster-growing.

How big is the market?

Warehouse automation (broad) is sized at roughly \$30B to \$69B depending on the firm and definition, AS/RS at about \$10B, and AMRs at roughly \$3B to \$5B. Consensus growth is low-to-mid teens for automation and high single digits for AS/RS.

What is goods-to-person, and what is a grid system?

Goods-to-person systems bring inventory to a stationary picker; grid or cube systems, such as AutoStore, store goods in dense stacked bins retrieved by robots. Both cut walking and raise density.

What is robotics-as-a-service (RaaS)?

A commercial model that provides robots for a recurring operating fee instead of a capital purchase, lowering the entry barrier and shifting some performance risk to the provider. A large majority of logistics firms are evaluating it.

Are humanoid robots ready for the warehouse?

They are early. Agility's Digit has moved more than 100,000 totes in a live GXO facility and funding is surging, but warehouse-scale humanoid work remains nascent and best suited today to narrow, high-value tasks.

How much can automation save?

Vendor and survey figures point to labor-cost reductions up to about 30 percent, density gains up to 400 percent for grid systems, and accuracy above 99 percent. Validate against your own baseline.

AS/RS or AMRs?

AS/RS and grid systems deliver the highest density and throughput for stable, high-volume operations but require heavy capital; AMRs deploy faster, scale incrementally, and adapt to change. Many operations blend both.

How long does a deployment take?

AMR fleets can deploy in weeks to months; fixed AS/RS and grid systems are capital projects measured in many months, with construction-style lead times and integration risk.

What matters most for success?

Integration with the WMS and existing systems, validating throughput at peak rather than in a demo, choosing the right system for the building and SKU profile, and managing workforce change.

12. Recommendations

- 11. Start from the problem, then match the system.** Define the process, volumes, and SKU profile first; high-density stable operations point to AS/RS and grid systems, flexible and fast-growing operations point to AMRs and robotics-as-a-service, and the costliest manual picking points to robotic piece-pick.
- 12. Weigh capital purchase against robotics-as-a-service.** Let cost of capital, volume stability, and technology risk drive the commercial model, and use RaaS to lower the barrier and de-risk early deployments.
- 13. Treat the software and integration as the real project.** Evaluate warehouse execution and orchestration software, WMS integration, and multi-vendor interoperability (VDA 5050); the software outlives the hardware.
- 14. Validate throughput on your own data and at peak,** through a pilot or reference visit at comparable volume and complexity, and weight throughput results over demo polish.
- 15. Weigh ownership stability, and sequence the rollout.** In a consolidating, heavily funded market, confirm vendor roadmap and support, then automate the highest-labor, highest-volume process first before expanding.

13. Methodology and caveats

- **Market sizing diverges by category and definition** (warehouse automation roughly \$30B to \$69B, AS/RS about \$10B, AMRs roughly \$3B to \$5B); all figures are directional, and several come from firms whose methodologies are not public.
- **ROI, density, and accuracy figures are vendor- or survey-sourced** (AutoStore, Locus, Berkshire Grey, the Exotec worker survey) and should be validated against your own baseline before use in a business case.
- **Order-intake and forecast figures rely on specialist analysts** (Interact Analysis, LogisticsIQ); the 2025 order-intake comparison in Figure 3 is approximate and directional.
- **There is no single dominant analyst ranking for warehouse robotics.** The landscape view in Figure 4 is SCR's directional interpretation of system scale and flexibility, not an analyst evaluation or vendor ranking.
- **Funding, valuation, and acquisition details are accurate as reported** at the time of writing; this is a fast-moving market, so confirm current figures before relying on them.

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Additional figures drawn from: Interact Analysis 2025 order-intake commentary (Dematic, Toyota Industries, TGW, Geek+, AutoStore, Honeywell); Forge Global and PitchBook (Figure and humanoid-sector funding); the 2024 Warehousing and Fulfillment Costs and Pricing Survey via Food Logistics (warehouse wages); and a 2025 Exotec worker-productivity survey. Vendor capability, ROI, density, and accuracy claims are vendor- or survey-stated unless otherwise noted.

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