

Magic Quadrant for Warehouse Management Systems

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Initiatives: [Supply Chain Technology Strategy and Selection](#)

WMS vendors are challenging established leaders in a mature market by targeting critical outcomes such as cost of ownership, automation support, adaptability and cloud services. Supply chain technology leaders should use this research to understand the current state of the WMS market.

This Magic Quadrant is related to other research:

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Market Definition/Description

Gartner defines a warehouse management system (WMS) as “a software application that helps manage and intelligently execute the operations of a warehouse or distribution center (DC).” WMS applications offer core capabilities such as:

- Receiving
- Put-away
- Stock locating
- Inventory management
- Cycle counting
- Task interleaving
- Wave planning
- Order allocation
- Order picking

- Replenishment
- Packing
- Shipping
- Labor management
- Automated material handling equipment (MHE) interfaces

These systems natively exploit mobile devices along with bar codes and, possibly, RFID scanning/sensing to form the transactional foundation of a WMS. This enables efficiencies of directed work activity and the delivery of accurate information in near real time. Gartner also includes integrated functionality – what we refer to as extended WMS capabilities (see [Apply an Architectural Framework to Stratifying Warehouse Management Systems](#)) – as components of a WMS evaluation.

These extended WMS capabilities include:

- Workforce/labor management
- Slotting
- Yard management
- Voice picking
- Parcel manifesting
- Value-added services such as light manufacturing/kitting
- Third-party logistics (3PL) billing

We do not consider stand-alone solutions in these areas as part of this research.

The overall WMS market breaks down into five types of vendors, the first four of which are covered in this Magic Quadrant:

- **Application mega vendors** – These vendors offer broad portfolios of applications across most application categories (e.g., back-office financials, human capital management, customer relationship management, customer order management, manufacturing, enterprise resource planning [ERP] and supply chain management [SCM]). While these vendors might offer a variety of SCM solutions, they do not necessarily offer an integrated platform. Infor, Oracle and SAP are considered mega vendors with WMS offerings.
- **SCM suite vendors** – These vendors offer a holistic WMS plus a portfolio of two or more applications focused primarily on SCM. These can include aspects of logistics (e.g., warehousing, transportation and global trade), supply chain planning (SCP), customer service (e.g., order management and omnichannel management) or sourcing and procurement, but not other functional areas such as financials, CRM or human capital management. While these vendors might offer a variety of SCM solutions, they do not necessarily offer an integrated platform (although some do). Vendors in this category include Blue Yonder (formerly JDA), Körber (formerly HighJump and inconso) and Manhattan Associates.
- **Specialist WMS suite vendors** – These vendors are independent software vendors (ISVs) that focus primarily, but not necessarily exclusively, on holistic WMS suites. In addition to WMSs, they might offer additional, complementary capabilities, but these remain a modest percentage of their business. Vendors in this category included in this Magic Quadrant are Ehrhardt Partner Group (EPG), Generix Group, Made4net, Mantis, Reply, Softeon, Synergy Logistics, Tecsys and Vinculum.
- **Material handling equipment/automation vendors** – Most material handling equipment (MHE) vendors primarily focus on providing the electromechanical aspects of large-scale, automated warehouses. However, many of these vendors also offer some WMS capabilities as part of their portfolio of products. We only cover MHE firms as part of this research if they can demonstrate that they routinely sell their packaged WMS application completely independently from their MHE. This is because these firms do not typically offer their WMSs to the market independent of their MHE solutions. Vendors in this category included in this Magic Quadrant are Mecalux Software Solutions and SSI SCHAEFER IT Solutions.

- **Independent WMS component vendors** – Not covered in this Magic Quadrant, these vendors are specialized ISVs that focus exclusively on offering stand-alone components that can be used to supplement a WMS; they do not offer a full WMS. Examples of these components include workforce/labor management, slotting optimization, multicarrier parcel management, yard management, dock/appointment scheduling, warehouse control systems (WCSs), warehouse execution systems (WESs) and other specialized add-on solutions (see [Warehousing and Fulfillment Vendor Guide](#)).

WMS Market Considerations

All solutions in the Magic Quadrant for Warehouse Management Systems support basic core WMS capabilities. Many also support various levels of extended WMSs. Core WMS capabilities are the basic functions of receiving, put-away, storing, counting and picking, packing and shipping goods. Extended WMS capabilities are value-added capabilities that supplement core functions, such as labor management, slotting, yard management and dock scheduling (see [Apply an Architectural Framework to Stratifying Warehouse Management Systems](#)).

Despite being a very mature market, recent disruptions have spurred innovation, and while very challenging for some vendors and regions, the overall market is forecast to grow to over \$4 billion by 2026 with a five-year compound annual growth rate (CAGR) of over 13%. WMS offerings continue to differ in areas such as usability, adaptability, decision support, scalability both up and down market, use of emerging technologies and life cycle costs. Furthermore, customers increasingly favor suites that can support end-to-end supply chain and logistics process orchestration. Gartner refers to these areas as supply chain (SC) convergence and supply chain execution convergence (related to convergence of operational activities).

The focus on breadth and depth of WMS offerings remains valid for the most sophisticated operations, while other factors such as simplicity, usability and cost of ownership are more important factors in less complex environments. However, we continue to see a bifurcation in the WMS market between the high-performance, complex and sophisticated end of the market and the mass market where “good enough” functionality is “good enough.” This is not because companies choose to sacrifice functionality. It’s because globally, the preponderance of warehouse operations are Level 3 or below in Gartner’s warehouse complexity model, with Level 1 being the most basic and Levels 4 and 5 being the most complex and automated. Warehouses at Level 3 and below do not require, nor would they normally use, the most advanced functionality. See [Tool: Stratify Your Warehouse Operations to Determine the Right-Fit WMS and Improvement Strategy](#) for more insight on level-setting warehouse operations.

This bifurcation highlights that there is a very clear market for high-end WMS solutions where feature/function and performance are critical and cost is less of an issue. This makes for a healthy, although smaller, market for high-end, functionally advanced WMS solutions aimed at complex and sophisticated Level 4 and Level 5 operations. Conversely, there is another market where other factors dominate such as ease of use, reliability, service and support, “good enough” features and lower cost of ownership. This is a very large WMS market for what Gartner’s stratification model would call Level 2 and Level 3 warehouse environments. These types of companies could be served well with any good WMS, and they would be satisfied with a mega-vendor-provided WMS or a less functionally robust ISV WMS offering.

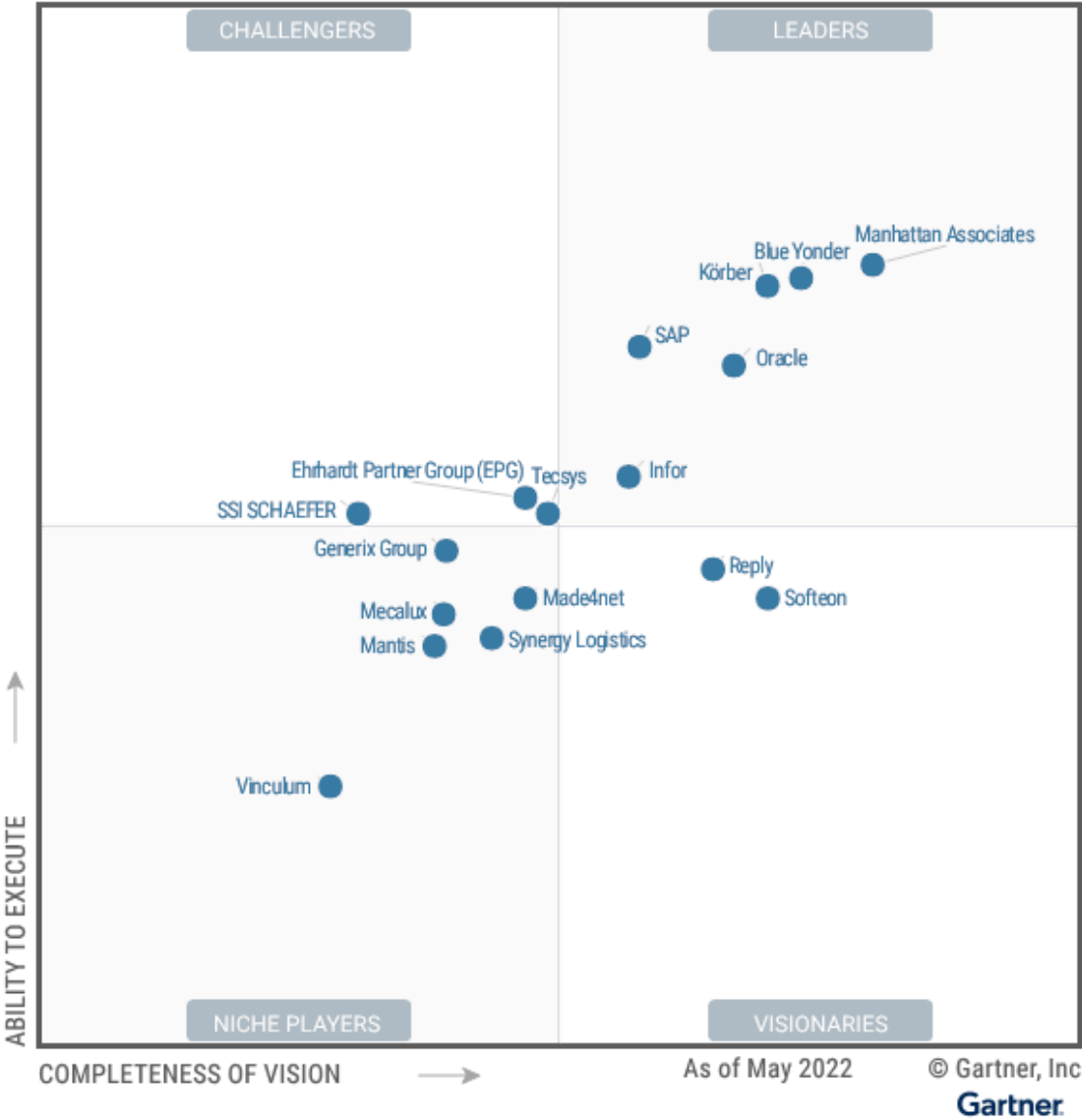
Although functionality remains at the top of the list of user evaluation criteria, there’s near-functional parity for core WMS capabilities across WMS providers. Given the mature state of the WMS marketplace, a combination of the following vendor and product topics affects the positioning of vendors in this year’s Magic Quadrant:

- The vendor’s market understanding and its vision for next-generation WMSs and supply chain execution (SCE)
- The vendor’s proven track record of commercializing, delivering and deploying innovations to the market
- Investments to address total cost of ownership (TCO) and customer time to value
- The WMS’s technical architecture to support adaptability and extensibility
- The long-term viability of the vendor and product, given the long life span of WMSs

- Current and projected growth of both revenue and total number of clients
- Market awareness, name recognition and reputation
- Product or vendor differentiation
- Integration with other applications and support for cross-functional process orchestration
- Cloud architecture and deployment model options (e.g., dedicated or multitenant cloud SaaS)
- Ability to translate business goals and objectives into specific WMS functional requirements
- The ability of the vendor to commercialize new investments to deliver enhanced business value
- The vendor's ability to sell, implement and support global deployments
- The vendor's ability to deliver value through service, support, consulting and training
- The vendor's openness to, and support of, an ecosystem of partners
- The vendor's offering of tools and technologies to facilitate implementations and support
- Customer experience (from customer references and Gartner customer interactions)
- SCE convergence strategy (a seamlessly integrated SCE orchestration platform)

Magic Quadrant

Figure 1: Magic Quadrant for Warehouse Management Systems



Source: Gartner (June 2022)

Vendor Strengths and Cautions

Blue Yonder

Blue Yonder, a Leader in this Magic Quadrant, was the largest SCM suite vendor with around \$1.1 billion in 2020 revenue, of which \$819 million was software revenue. Its WMS software revenue was \$160 million in 2021. In September 2021, Panasonic completed its acquisition of Blue Yonder, which operates independently under Panasonic's Connected Solutions Company umbrella. In May 2022, Panasonic announced preparations for listing its supply chain management business, including Blue Yonder on the stock exchange. Blue Yonder offers a portfolio of individual SCM solution suites that include WMS, workforce/labor management, transportation management, supply chain planning, merchandising and retail planning. It has 973 WMS customers with a modest number of new customers in 2021. Its customers span 19 vertical industries with notable strengths in 3PL, food and beverage, consumer products, retail and pharmaceuticals. Approximately 48% of its WMS customers are based outside its home geography of North America. It has grown its global partner network to 89, with 40 in North America, 17 in Europe, 20 in Asia and 12 in Latin America. For approximately three decades, Blue Yonder has worked in some of the most complex warehouse environments, and it continues to focus primarily on the higher end of the WMS market.

Blue Yonder's Warehouse Management is most often used in Levels 3 and 4 warehouse operations, where the functional robustness of the WMS is valued by customers that are more sophisticated and complex. However, it can scale from high Level 2 to Level 5 operations, where it has a large number of highly automated customers. It is moving from an on-premises deployment model to cloud/SaaS with about 70 customers on SaaS today, and 90% of new bookings are now SaaS. Blue Yonder is building a new WMS for lower-complexity environments, Luminate Warehouse Management, which it is trialing with a few test customers.

Strengths

- Blue Yonder is distinguished in the maturity, adaptability and capabilities of its core and extended WMS functionality, as well as its supply chain convergence vision. It is strong in areas such as workforce/labor management, labor forecasting and scheduling, traceability and performance management.
- Blue Yonder has a large and diversified WMS customer base of demanding, complex and sophisticated customers. It has a long track record of delivering WMS solutions for some of the most complex warehouse operations.

- The vendor is exploiting its artificial intelligence (AI) solutions domain expertise and enhancing its tasking and robotics orchestration capabilities. The acquisition by Panasonic may also increase its opportunities for collaborating with Panasonic's Edge technology.
- Blue Yonder has a strong partner network that supports 50% of its new WMS deals. This partner-first approach, combined with improved automated testing, is driving a more agile implementation methodology for lower- to medium-complexity environments.

Cautions

- Migration and upgrade strategies for legacy WMS customers will be complicated by Blue Yonder's Luminate platform vision and its new Luminate WMS. It is taking an incremental approach to moving new warehouse capabilities onto Luminate but has a long-term vision to move the entire WMS onto this platform in the future.
- While the acquisition has brought financial stability, there has been disruption in Blue Yonder resources and a greater focus on strategic partners to deliver projects. While this may benefit some, other organizations may find their deployment choices constrained and costly.
- The vendor's current WMS is not a true multitenant cloud built using microservices. Its hybrid approach to moving to microservices and multitenant cloud might be OK for existing customers, but it adds complexity while functionality is in different technologies.
- Blue Yonder's subscription agreements have potentially significant financial penalties for not staying current with software upgrades. The solution also lacks the ease of continuous upgrades that other WMS vendors offer.

Ehrhardt Partner Group (EPG)

EPG is a Challenger in this Magic Quadrant. It is a German WMS/logistics solution provider founded as a family-owned company in 1987 with revenue of approximately \$110 million (\$84 million from WMS licenses and services). Its main offices are in Germany and the U.S., with other locations across EMEA and new branches in Australia, Japan and Mexico. EPG has 800 employees focused on logistics software and hardware solutions. In addition to its WMS, EPG LFS, it has multiple SCE applications and a native WCS, as well as consulting and cloud and hosting services in multiple regions. EPG also provides its own voice solution, Lydia Voice, that it sells both with and independent from the WMS. Its largest customer industry segments are 3PL, retail/e-commerce, industrial and construction machinery, automotive/parts and consumer products (82% of its customers in total). It offers industry-specific functions for many of these segments and for food/beverage, pharma/healthcare and textiles. Of EPG's 780 WMS customers and 1,550 total supply chain execution customers, 73% are based in Europe (mainly in the DACH region, the Czech Republic, Spain and Poland). About 13% of its customers are in the Middle East and Africa, with 9% in North America, 4% in Asia/Pacific and 1% in Latin America.

EPG has direct implementation resources in all regions and is supported by partners in North America, Latin America and Asia, accounting for 8% of implementations. Its WMS is most often used in Level 4 and Level 5 warehouse operations, but it can scale from high Level 3 through Level 5 operations. Most of EPG's customers (80%) deployed/migrated to a dedicated cloud environment using EPG's private cloud services. (A traditional perpetual license model is offered, plus a subscription offering, and customers have the option to deploy on-premises).

Strengths

- EPG is a stable, privately owned company with consistent, significant growth. It has over 30 years of experience in warehouse management and extensive support for MHE automation and industrial environments.
- EPG delivers innovation and a roadmap for SCE convergence and immersive technology. It deploys packaged and independent supporting technologies and extended WMS such as Lydia Voice, dock scheduling, checklist and inspection tools, innovative workforce management, contract and billing, and predictive maintenance for automated facilities, as well as multisite enablers.
- EPG has extensive experience in highly complex and automated (Level 5) warehouses with integrated WCS and 3D graphical simulation, emulation and visualization capabilities.

- EPG has more competitive pricing and TCO compared to other WMS vendors in this research.

Cautions

- While growing internationally, its implementation resources and partners are not balanced across all regions with most partners, especially in North America, focused on its voice solutions. Seventy-three percent of its WMS customers and 65% of its revenue remain in Europe (55% in the DACH region), with the largest proportion of its resources based in Germany.
- EPG is not optimized for any hyperscaler, although customers could host WMS on one of their choosing. Its cloud option is only deployed as part of its private cloud offering, EPX cloud services, with limited multitenant cloud options.
- While EPG rearchitected its solution in 2018, the vast majority of its current customers remain on its legacy WMS versions, making the upgrade path more complex.
- Some of EPG's extended WMS capabilities, notably workforce management and contracts and billing, were not built specifically for warehousing and could be too functionally rich for some companies while also lacking in some areas such as engineered labor standards.

Generix Group

Generix Group, a Niche Player in this Magic Quadrant, provides a portfolio of SCM solutions with two WMSs, as well as transportation and yard management, logistics order and replenishment management, and electronic data interchange (EDI). In April 2022, Generix announced that its management, Pléiade Investissement and Montefiore Investment entered into exclusive negotiations with a view to conclude an agreement leading to a public tender offer. Approximately 53% of Generix's \$83.5 million in revenue comes from WMS, and more than 250 of its 800 employees are focused on WMS. Of its 411 WMS customers, 70% are based in Europe, accounting for 80% of its revenue, with around 21% of its customers in North America and the remainder (9%) distributed in other regions. Its WMSs are deployed in 35 countries with the largest market in France (more than 140 customers). Seventy-nine percent of Generix's WMS revenue is from consumer products manufacturers, retail and 3PL, with 3PLs representing its largest customer segment and retail a close second. It offers two distinct WMS solutions: Generix WMS, and SOLOCHAIN WMS, which was initially developed by its North American business unit. Generix WMS is deployed across 323 customers and approximately 800 warehouses. SOLOCHAIN is a contemporary WMS and manufacturing execution system (MES) solution with 88 customers in Canada, the U.S. and Mexico.

Generix's WMSs are most often used in Level 2 and Level 3 warehouse operations, but Generix WMS in particular can scale to Level 4 and Level 5. However, Generix lacks a warehouse control system of its own for highly automated Level 5 warehouse operations. Its preferred deployment method for new customers is dedicated cloud using a recurring SaaS subscription pricing model. More than 90% of its new contracts are SaaS, with 31% of its existing customers deployed on the dedicated cloud.

Strengths

- Generix has a strong European presence (especially in France) with entities also in Benelux, Italy, Spain and Portugal. It is also growing in other regions, with almost a third of its business now outside its home geography and entities in North America and Brazil.
- SOLOCHAIN is well-suited to combination manufacturing and warehouse operations because it offers a seamlessly integrated WMS and MES. This goes beyond simple transactional integration and addresses complexities of process integration between the warehouse and the shop floor.

- SOLOCHAIN offers powerful visual tools to facilitate, accelerate and enhance implementations as well as provide ongoing support. It provides a model-driven architecture and back-office capabilities that document every client interaction in the application, facilitating upgrades.
- Generix supports some SCE convergence by offering several products complementary to WMSs, such as a transportation management system (TMS), and other capabilities.

Cautions

- All of Generix's sales and implementation resources in Europe are direct, as are approximately 75% of its resources in other regions. Only around 10% of its overall implementations involve a partner, although it does have a roadmap for expanding partnerships.
- While the technical architecture and back-office capabilities of SOLOCHAIN are differentiated, it lacks the depth and breadth of other WMSs' core/extended functionalities, including Generix WMS, which forces customers to balance architecture versus capability.
- The vendor offers two overlapping WMSs: one strongest in Europe and the deepest in functionality, and the other strongest in North America, with the most differentiated architecture and likely the best platform going forward. It has two further platforms for other capabilities.
- Generix has seen a slight drop in overall revenue in the last year with very modest growth in WMS revenue, despite 32 new customers across the two solutions.

Infor

Infor, a Leader in this Magic Quadrant and owned by Koch Industries, is one of the largest business application providers with approximately \$2.8 billion in global revenue. Infor's SCE software in 2021 was approximately \$189 million, a negative growth of 4% year over year. In addition to WMS, its portfolio includes a number of SCM applications embedded in, or integrated with, several of its ERP solutions. Its SCM products range from planning applications to warehousing, labor management, 3PL billing and transportation. About 40% of its new WMS deals involve existing Infor ERP customers, and 60% are with net new customers. We estimate that Infor has around 1,500 WMS customers. Around 40% of these are CloudSuite WMS/SCE customers, with 13% now on multitenant cloud (90% of new customers). The remaining 60% of Infor's overall WMS customers are on legacy Infor WMSs. Sixty-five percent of its customers are international (35% in Asia/Pacific, 19% in Europe and the Middle East, and 11% in Latin America). Around 60% of its implementations now involve SIs and partners (including three global organizations and 21 local partners). Its strongest markets are 3PL, retail/grocery and wholesale distribution. Infor prefers a subscription-based WMS pricing model but can support perpetual licensing.

Infor's WMS is most often used in Level 2 and Level 3 warehouse operations and some low Level 4 environments, but it is making inroads toward more complex Level 4 and Level 5 environments. Infor also offers Factory Track, bundled with Infor's various ERPs, which provides simplified Level 1 and low Level 2 warehouse capabilities. Infor now prefers a multitenant cloud deployment but offers a range of deployment options, including on-premises.

Strengths

- Koch has brought financial stability and a 20-year roadmap to further develop the Infor organization and its products. This includes further focus on cloud and its nascent and limited microservices architecture. Infor has intentions to sell individual elements of the WMS and other CloudSuite applications to customers as required.
- Infor leverages innovations developed in other areas to enhance its WMS. It benefits from capabilities such as Birst for analytics in 14 languages, Coleman for AI, documents management, ION for integration between Infor and external applications, and its Infor OS.
- Infor is one of the stronger WMS vendors internationally, with deployments in 65 countries and two-thirds of its business outside its home base of North America. It is particularly strong in Asia, with more than one-third of its customers in this region.

- Infor's extensibility approach, which includes Mongoose, is unique and helps address WMS customization even for midsize enterprises, which remains problematic in other WMSs' multitenant cloud deployments. It allows users to make "no code" enhancements and provides a "full code" option that allows technical people to make more advanced application changes.

Cautions

- Market awareness of Infor's WMS remains low. The total customer base for WMS and Factory Track is a small percentage of Infor's overall ERP customer base, and many Infor customers seem unaware of its capabilities in warehousing and data collection.
- Infor lacks the functional depth, breadth and industry (including healthcare) specialization of other WMSs.
- At the corporate level, Infor stresses its industry focus and differentiation, but so far, there is no tangible evidence of notable verticalization of the WMS product.
- A high proportion (60%) of Infor's WMS customers remain on legacy products and do not have an easy upgrade path to take advantage of its current WMS's newer features and capabilities. While Infor aims to ease this path by developing "migration factories," moving to its newer WMS will require reimplementing, not an upgrade.

Körber

Körber (formerly HighJump and inconso), a Leader in this Magic Quadrant, is part of international technology group Körber. In March 2022, investment firm KKR acquired a significant minority stake in Körber's supply chain software business to enable global growth and enhance end-to-end solutions. Körber brings together 12 supply chain technology providers (four in automation and eight in software and consulting), all united under the Körber brand in 2020. While global, 53% of the company's revenue comes from North America, with 40% from Europe and modest revenue (7%) from the rest of the world. It goes to market with four independent WMSs. We estimate Körber has 1,300 employees focused on WMSs, with 1,584 customers for its four WMSs.

Körber's four WMSs include K.Motion Warehouse Edge, which is best-suited to Level 2 and low Level 3 warehouse operations, and K.Motion Warehouse Advantage, which primarily fits Levels 3 and 4, with some presence in Level 5 operations. K.Motion Enterprise 3PL primarily fits Level 3 and low Level 4 warehouse operations, and K.Motion WMS X primarily serves Level 5 operations but is present in Levels 3 and 4 primarily in the DACH region, France and Spain. Körber has adopted a cloud-first model for new business, but cloud adoption varies by WMS from 5% for WMS X to 79% for Enterprise 3PL. Körber's WMSs are 100% dedicated cloud today, but the vendor has a vision to move toward a multitenant, microservices architecture over several years.

Strengths

- Körber aligns its various organizations under the Körber umbrella, which brings capabilities, expertise and international presence in areas such as warehousing, material handling, robotics and supporting technologies such as voice.
- Customers have cited the ability to make specific changes at the business logic level with no changes made to the underlying source code as a primary reason for selecting Warehouse Advantage.
- The vendor has strong warehousing expertise and solutions that go beyond just core WMS in areas such as voice, simulation and modeling, and material handling integration, having its own WCS. It also has a growing leadership position relative to intralogistics smart robotics.
- Körber has a growing ecosystem of more than 100 global sales and specialist implementation partners (including cloud partners).

Cautions

- Körber continues to sell, develop and support four different WMS offerings and is working on its next-generation WMS platform. While the former HighJump's WMS technical platform enables it to upgrade some common functionalities across the three WMSs, many features are built on different logic and will not fit this approach.
- Adaptability and flexibility add complexity, so prospective customers must have strong internal technical resources and robust governance processes in place to control and minimize customization. Excessive customization can negatively impact aspects of service and support.
- While the investment and restructure bring increased focus to Körber's supply chain business, separation from the larger Körber group may impact longer-term strategy and alignment with other Körber divisions.

- Körber's vision is to move toward multitenant, microservices cloud architecture in three to four years, so it is building most of its new capability around the edge in anticipation of the move to a new platform down the road. Consequently, customers could face multiple upgrades as part of Körber's strategy to avoid full reimplementations as the migration progresses.

Made4net

Made4net, a Niche Player in this Magic Quadrant, was founded in 2005 and is a small vendor of WMS and related SCE solutions. In 2021, private equity firm Thompson Street Capital Partners completed a majority investment in Made4net. Made4net's SCE Expert Suite includes WMS, transportation, delivery management, and yard and labor management, all running on a single common technical platform. It has 103 employees focused on warehouse management and over 700 customers globally. It has the broadest geographical coverage of any of the independent WMS providers, with 28% of its customers in North America, 30% in Europe, 17% in Asia, 12% in Latin America and 13% in other regions. Made4net has partners and customers in over 40 countries. Its three key industries are 3PL, retail and wholesale distribution, with significant numbers of customers in consumer products, e-commerce, food service and apparel.

Made4net's WMS is most often used, and the majority of its customers are, in Levels 2 and 3 and some low Level 4 environments, but it can scale up to more complex operations. Made4net supports all deployment methods, but the majority of its installed base (72%) is on-premises. The majority of its cloud deployments are dedicated, with only 2% of its total customer base on multitenant cloud and primarily for operations with 10 users or fewer.

Strengths

- For its size, Made4net has a compelling international go-to-market strategy and sales track record with consistent growth, and 72% of its business is outside its home geography. It has customers in approximately 40 countries across 12 industries and delivers its applications in 20 different languages.
- Made4net's customers are largely Level 2 and low Level 3 warehouse operations (64%), which is an area neglected by many vendors. But it is increasing penetration into and capabilities to support higher-complexity environments.
- Made4net has some SCE convergence, with six product categories (i.e., WMS, yard management, labor management and three transportation solutions) on a common technical platform and has been expanding its support for automation.

- Made4net has a cost-effective and rapid deployment implementation methodology that is well-suited, but not limited to, the needs of small and midsize businesses (SMBs), where it claims it can do an implementation in as little as six weeks.

Cautions

- While headcount is growing postacquisition, Made4net has a small number of WMS-focused employees and a large number of customers, which could stretch resources.
- For its size, Made4net has a strong global partner network and five offices around the world. However, customers with multisite rollouts that span geographical territories must be prepared to potentially manage multiple sales or implementation partners.
- While it has capabilities that can support larger, more complex and, often, automated facilities, its experience is strongest in SMBs, and it has limited resources compared to larger WMS providers. Larger customers with more complex warehouse operations must be diligent in evaluating its capabilities and resources.
- Made4net's cloud offering is nondifferentiated and not as mature as other WMS providers, while additional focus on cloud strategy and adoption is growing.

Manhattan Associates

Manhattan Associates, a Leader in this Magic Quadrant, is the second largest supply chain suite provider, with 2021 company revenue of approximately \$660 million. It has approximately 3,600 employees globally, with a presence in all regions. Gartner estimates Manhattan Associates has more than 1,600 customers, and as of year-end 2021, the company disclosed it had nearly 60 Manhattan Active Warehouse Management customers. It is present in more than 50 countries with a combination of company-operated sales and support offices, as well as partners around the world. It offers a broad portfolio of SCM, omnichannel commerce, supply chain planning and supplier enablement solutions. Its core applications comprise WMS, TMS, distributed order management (DOM)/omnichannel management all delivered on its microservices multitenant cloud architecture that supports extensibility and continuous upgrades.

Manhattan offers three distinct WMSs — Manhattan SCALE; Manhattan Warehouse Management for IBM i (WMI); and Manhattan Active Warehouse Management (WM), its microservices-based multitenant cloud WMS, which replaces Manhattan Warehouse Management for Open Systems (WMOS). These WMSs target different markets.

Manhattan SCALE, based on a Microsoft technical platform, caters to the SMB and 3PL WMS markets with independent Levels 2 and 3 warehouse environments. Manhattan WMI continues to support customers that prefer the IBM i platform, which is most often used in Levels 3 and 4 warehouse operations. Manhattan Active WM caters to sophisticated, complex and often highly automated warehouse environments and is most often used in Levels 4 and 5 warehouse operations, but it can scale from Level 2 through Level 5. The vendor offers a fully integrated WMS and warehouse execution system (WES), supporting more automated high-volume and high-velocity operations.

Strengths

- Manhattan is a financially stable and consistently successful vendor with a long-tenured management team that has achieved consistent growth for over a decade, growing organically, not through acquisition.
- It remains a thought leader and innovator in its core SCE markets, especially in warehousing and omnichannel management. This is combined with a highly effective operational R&D team with the ability to effectively translate business requirements into deliverable products of good quality and reliability.
- It was the first major WMS vendor to rewrite its WMS onto a microservices multitenant cloud architecture that supports elements of composability, extensibility and zero upgrades. Its DOM and TMS are on the same cloud architecture, offering potential for cross-functional composability to customers who acquire two or more of its applications.
- Manhattan is differentiated in both the depth and breadth of its core SCE products — notably warehouse, omnichannel, labor management and transportation management — and is the only SCE platform vendor.

Cautions

- Manhattan has a reputation as a high-end offering that is expensive, complex and requires more effort to support than other systems. While Manhattan Active WM is versionless, mitigating upgrade costs, the TCO is often high.

- Manhattan is less consulting-/systems-integration-partner-friendly than other WMS leaders, which can constrain choice and resources. However, the increased focus on usability for its Manhattan ProActive tool may reduce the client's dependency on Manhattan's integration services team.
- Manhattan Active WM is a cloud-only offering, so organizations seeking to deploy on-premises can now only do so through Manhattan's less functionally rich Manhattan SCALE or potentially the Manhattan WMi offering.
- The vendor lacks an explicit midmarket strategy beyond WMS. While Manhattan SCALE is purpose-built for midsize or smaller warehouse operations, other Manhattan Associates' offerings, such as DOM and TMS, are primarily targeted at sophisticated and complex environments and are available on different technology platforms.

Mantis

Mantis, a WMS suite provider, is a Niche Player in this Magic Quadrant. It is headquartered in Greece with offices across EMEA and North America and was acquired by Germany-based logistics software and hardware provider Ecovium in January 2022. Mantis has been in operation since 1996 and has 114 employees focused on WMS. The vendor did not meet the inclusion criteria for revenue but qualified due to rapid customer growth and a three-year CAGR for revenue of 25%. While this research maintains a focus on Mantis and its WMS, consideration was given to the Ecovium acquisition's impact on the vendor's longer-term prospects. The vast majority of Mantis's 623 WMS customers are in EMEA (with a strong presence in Central and Eastern Europe, Turkey, Israel and the Middle East) and a limited but growing presence in North America following its 2018 acquisition of Insight Technologies. Its top three customer industries are 3PL, distribution/wholesale and multichannel retail, with customers spread across 13 vertical industries with notable presence in e-commerce and 3PLs.

Clients range from SMBs with single-site deployments having a few users to large multinationals with multisite, multicountry deployments having hundreds of concurrent users. Its WMS, Logistics Vision Suite (LVS), is most commonly used in Levels 3 and 4 warehouse environments, but it scales from Level 2 to some Level 5 operations. Mantis's customer base is currently deployed on-premises, but it can support customers' preferences for private/dedicated cloud and offers both perpetual license and subscription pricing.

Strengths

- Mantis has a strong local presence, partner network and customer base in EMEA, especially in territories where many other WMS vendors are not present. Its recent merger offers expansion opportunities into the DACH region, mitigating the impacts of geopolitical disruptions in some of Mantis's other markets.
- Mantis has an adaptable solution enhanced by a visual workflow and powerful rule engine as well as a seasonal subscription offering that should support many customers' needs. The vendor also supports more advanced customization through scripting tools and APIs.
- For its size and market position, Mantis has a differentiated inventory slotting vision and offering with Slot Master, where it can also offer "slotting as a service."
- In 2022, Mantis is also launching automation (hardware) as a service alongside its new cloud hosting and scalable seasonal subscription offering.

Cautions

- Mantis does not offer a public cloud option today, although it plans to release support for cloud-hosted deployments on Microsoft Azure in mid-2022.
- While the acquisition by Ecovium improves overall viability and the Mantis management team is being retained, Ecovium itself was formed from the consolidation of 12 organizations in 2021, which may impact stability.
- Mantis is well-suited to the midmarket and EMEA; however, given its small number of company employees, customers considering large, complex global deployments should stringently review the level of available implementation resources and support. Prospects should vet direct and partner capacities to ensure there are sufficient resources to support their implementations.
- Customers with very complex and automated warehouse environments should carefully map their requirements to see if LVS provides the necessary support for all scenarios. Those with a high level of varied automation should consider alternatives and WCS vendor capabilities alongside those of Mantis's configuration and integration tools.

Mecalux

Mecalux Software Solutions, a Niche Player in this Magic Quadrant, is headquartered in Spain with total WMS revenue of over \$22 million. It also has high WMS customer and revenue growth with a three-year CAGR of 28% and 27%, respectively. It has approximately 900 live WMS customers and 360 employees focused on WMS. Its parent company, Mecalux Group, sells and operates mainly in Europe and the Americas, with 24 locations there (including companies such as Interlake Mecalux) and customers in over 70 countries. It offers products and services for warehouses, ranging from manufacturing of racking and shelving, automated MHE and associated consulting for design to the supply of warehouse control and WMS. Mecalux has total company revenue of more than \$1,177 million and over 4,600 employees across its businesses. Almost 90% of its WMS customers are based in Europe (with 76% of its customers based in Spain, France and Poland), a significant number in Latin America and a small presence in other regions. Mecalux has direct implementation resources in Europe and the Americas, with implementation partners supporting approximately 20% of its less complex projects.

Mecalux's Easy WMS product has been developed over the last 22 years and is best-positioned to address "medium" levels of complexity and cost to implement. It primarily services midmarket businesses with automated facilities and manual warehouse operations. Historically, it was most often used in Levels 2 and 3 operations, but it scales to Level 5 supported by its own WCS. Twenty-two percent of the vendor's implemented customers are on cloud, with two-thirds of these on dedicated cloud and 55% of new manual customers on cloud. Standard/small implementations use multitenant solutions, and larger, more complex customers use dedicated, single-instance deployments. Mecalux uses Microsoft Azure for cloud deployments.

Strengths

- Mecalux has a targeted focus on serving the needs of SMBs, with approximately 900 live midmarket customers in both manual and automated environments. It provides its own WCS, as well as WMS and some adaptable simulation and modeling tools to support these customers, including integration experience into some MES systems.
- Mecalux has a strong geographic presence in Iberia and France, with strong potential to expand further into Latin America while targeting Northern Europe and the U.S. Because it is part of the larger Mecalux group, it has expansion and collaboration opportunities with the capability to serve as a one-stop shop for MHE, racking and software specifically targeted to the midmarket.

- It has also developed new applications and set up support for inexperienced e-commerce businesses and those forced to adapt to e-fulfillment where they had not previously done so.
- Mecalux has a relatively low TCO (software plus service) compared to other vendors in this research, with the opportunity to make the midmarket offering easier to adopt for low-complexity environments.

Cautions

- While a good fit for the midmarket, Mecalux has less experience in complex, larger multisite enterprises with highly complex, people-driven warehouse environments.
- WMSs and packaged business applications are not Mecalux Group's core business and represent a small percentage of its overall revenue. While WMS software is now a growing strategic area, resources may be more focused on consolidated offerings.
- Mecalux's cloud option is less mature than some WMS offerings but is evolving and accounts for 55% of new manual customers.
- While it has customers and resources in all regions, almost 90% of its customers are based in Europe (with the majority in Iberia). Its next largest region of Latin America accounts for 8% of current customers, with only 2% in North America and the remainder in other regions.

Oracle

Oracle, a Leader in this Magic Quadrant, is a global application and infrastructure mega vendor (with over \$41.5 billion in total revenue, of which software revenue was \$34.2 billion). Oracle is No. 2 by market share in the SCE software market that includes WMS software, with SCE software revenue of \$545 million in 2021. Oracle offers multiple WMS products, but this research focuses exclusively on Oracle Fusion Cloud Warehouse Management (i.e., Oracle Warehouse Management) as it is Oracle's primary go-forward WMS. From inception, this solution has been a pure multitenant SaaS/cloud WMS. It is integrated with Oracle's other cloud SCM offerings: Oracle Fusion Cloud Supply Chain & Manufacturing, Oracle NetSuite and Oracle Retail Merchandise Operations Management Cloud. Oracle's portfolio includes Oracle Fusion Cloud Inventory Management for basic materials management and Level 1 warehouse functionality, as well as other cloud solutions for order management, manufacturing, transportation and sales. Although Oracle Warehouse Management is integrated with these solutions, it is a separate product. The vendor's strategy is to maintain this solution as a separate product so it can also be integrated with non-Oracle applications (approximately 42% of existing customers). Oracle has over 20 partners responsible for 80% of Oracle Warehouse Management implementations, ranging from small boutiques to large global consultancies. Oracle's customers are well-distributed internationally, with 37% in North America, 33% in Latin America, 21% in EMEA and 9% in Asia/Pacific. We estimate Oracle now has 470 Oracle Warehouse Management customers, having added 60 new customers in 2021.

Oracle claims its Warehouse Management customers are spread well across Level 2 through Level 5 warehouse operations, with 55% present in Level 3 and now 25% of facilities having some automated MHE.

Strengths

- Oracle has one of the most coherent SCM cloud strategies and the most mature cloud WMS offering. It has made notable accomplishments with cloud, such as zero downtime given its maturity and use of Oracle Cloud Infrastructure's Autonomous Database, and enhanced tools such as its WMS health analyzer.
- The vendor has a differentiated user experience (UX), taking advantage of its next-generation UX called Redwood, its Visual Builder mobile application development platform and its conversational natural-voice Digital Assistant.

- Oracle's WMS technical architecture is differentiated, supporting a platform as a service (PaaS) layer that exposes most WMS capabilities via REST APIs, enabling customers to build converged applications. Furthermore, it leverages other Oracle technologies such as AI/machine learning (ML) and IoT to build new WMS capabilities such as predictive dashboards.
- Oracle's WMS was historically strong in fulfillment-intensive industries, notably retail and consumer goods, which represented 38% of its customers. However, it continues to expand its industry reach into multiple verticals now, with a presence in 17 industries supported by a variety of inventory attributes.

Cautions

- Oracle is not yet functionally as broad or deep as WMS leaders in this Magic Quadrant, especially for extended WMS areas such as labor management or work optimization.
- The number of functional enhancements has declined with the more recent focus on technical architecture, usability and tighter integration to other Oracle applications. Oracle is not functionally catching up with other Leaders, with greater focus on building APIs (over 400), letting customers build advanced capabilities.
- Of Oracle's WMS implementations, 80% are performed by system integration partners. While most have strong technical competencies, customers should vet the depth and breadth of warehouse expertise (such as design, layout, process best practice and automation integration).
- The vendor does not yet have strong SCE/manufacturing convergence, but additional integration in support of manufacturing-specific business processes is part of the WMS roadmap for 2023.

Reply

Reply, a Visionary in this Magic Quadrant, provides an array of IT services, with a primary focus on consulting, system integration, digital services and cybersecurity. It has total company revenue of around \$1.1 billion. It also offers warehouse management applications and services, with 23% of its \$34 million WMS revenue coming from WMS software, 58% from services and the remainder from maintenance and support. About 280 employees support its two WMSs: Click Reply, its legacy WMS; and Logistics Execution Architecture (LEA Reply), a multitenant cloud WMS developed in a contemporary microservices architecture. Reply has 139 Click Reply customers and 117 for LEA Reply, and it expects LEA to surpass Click customers by 2023. Reply's WMSs are deployed in 29 countries, with 76% of WMS customers in Europe, 9% in North America, 9% in Latin America, 4% in Asia and 2% in other regions. Its WMS customers span industries, with Click Reply strong in automotive, industrial, service, high tech and 3PL, while LEA Reply is strongest in retail, e-commerce, food and beverage, and fashion and luxury.

Click Reply is best-suited to multisite, complex Level 3 and Level 4 warehouse operations often using material handling automation and can scale to Level 5 operations (25%). LEA Reply generally caters to less complex, warehouse-centric network environments and is most often used in Level 2 and Level 3 warehouse operations. However, it can scale up to low Level 4 operations and has a growing presence in Level 5 warehouses (10%). Reply can host its on-premises Click Reply WMS as a dedicated cloud solution. LEA Reply is the vendor's multitenant cloud offering built on its contemporary microservices architecture.

Strengths

- Reply's WMS business is part of a large, global organization, with strong consulting and system integration capabilities from over 10,500 employees based in 19 countries and 62 locations. As such, Reply's solution delivery capabilities and capacity are greater than comparably sized stand-alone WMS providers.
- LEA Reply was one of the first WMSs built on a microservices-based multitenant cloud platform, which allows some extensibility in a multitenant cloud deployment. It has demonstrated technical and commercial composability by assembling only the required microservices across its applications into new packages for e-commerce, in-store and manufacturing customers. It has a vision to enhance this platform with supporting components such as ML, visibility and usability.
- LEA EDGE eases integration between its cloud-deployed WMS and on-premises MHE providers' software, as well as other supporting technologies deployed on the edge such as robots or IoT devices.

- Reply remains an innovator that prototypes, commercializes and delivers new capabilities such as microservices, wearables (e.g., smartglasses and augmented reality), drones, real-time locating, MHE automation, microfulfillment center support, drop shipping and store logistics.

Cautions

- Reply remains primarily focused in Europe for WMS, with 77% of its customers and roughly 70% of its employees in Europe. Customers are fully dependent on Reply for technical services.
- Packaged WMS is not Reply's core business, representing only about 3% of its revenue as its primary business is consulting and system integration services. With local offices in key geographies, customers should expect to receive all services from Reply.
- Reply offers two distinct WMSs with notable overlaps in functionality and significant differences in technical architecture, adaptability, cloud deployment approach and maturity. LEA Reply is the vendor's more recent and go-forward WMS, and in some areas it is still working to match the depth of functionality of Click Reply.
- While LEA Reply offers some enhanced capabilities such as drop ship, supplier portal and parcel management, Reply has not yet delivered a comprehensive SCE convergence strategy beyond warehouse management.

SAP

SAP is a Leader in this Magic Quadrant. It is a global software mega vendor (with approximately \$28 billion in total revenue [software revenue was \$24 billion]) that has more than 30 years of experience in warehousing. SAP's SCE software revenue grew at 8.4% through 2021, slightly slower than the overall SCE software market. This research focuses exclusively on the SAP Extended Warehouse Management (SAP EWM) solution. SAP does, however, still support SAP Warehouse Management (SAP WM), its legacy WMS, which is seamlessly integrated and shares logic with SAP ERP Central Component (ECC). SAP EWM remains strongest in Europe. We estimate 42% of its customers are in EMEA, with 32% in North America, 17% in Asia and 9% in Latin America. SAP has more than 2,250 EWM customers and has diversified vertical industry coverage with customers in 17 industries. It has notable strengths in retail (including e-commerce, grocery and food service) with 495 customers, automotive and industrial/construction machinery with 325 customers and consumer goods (its strongest industry) with 690 customers.

SAP EWM is most often used in Level 2 and Level 3 warehouse operations, but it can scale up to Level 5 operations. However, it is generally too complex and not appropriate for stand-alone Level 1 operations. The vast majority of EWM customers are deployed on-premises (89%), with 8% on dedicated cloud (hosted) and only 3% on its newer multitenant offering. Approximately half of its dedicated cloud customers deploy on a stand-alone EWM instance. The majority of its cloud customers are net new EWM customers.

Strengths

- SAP has more total WMS customers than any other WMS provider at around 7,000 between its legacy ERP WM and EWM, with EWM being one of the largest customer bases on a single WMS application. SAP also has a substantial global presence and EWM customer growth, as well as global go-to-market and deployment capabilities with EWM customers in 65 countries.
- EWM, by offering sufficient functionality, is a suitable shortlist candidate for many SAP (SAP ECC or SAP S/4HANA) customers. For MHE integration, users of EWM Advanced have the option to deploy SAP MFS.
- SAP has a compelling platform strategy for addressing SCE convergence. EWM offers strong integration with both ECC and S/4HANA, as well as other components such as transportation management; trade compliance; quality; and environmental, health and safety and emerging manufacturing integration capabilities.
- SAP has a large and growing global ecosystem of implementation and consulting partners. This includes four global system integrators with EWM practices and a number of specialist EWM consulting organizations.

Cautions

- SAP EWM remains best-suited to companies fully committed to using SAP ERP (ECC or S/4HANA) as a platform. Non-SAP ERP customers should do detailed assessments to determine suitability for stand-alone WMS implementations and integrations with non-SAP systems.
- Mainstream support for SAP ERP WM will end in 2025 for S/4HANA and 2027 for ECC. This will compel existing SAP WM customers (we estimate 5,000) to migrate, not upgrade, to something new, or to use Stock Room Management for S/4HANA, a less functionally rich version of SAP's current ERP WM product.

- EWM's TCO tends to be higher than comparable WMSs', and its pricing structure based on transactions and users is complex and can be disproportionately high for companies with high transaction volumes. Also, implementations are mostly performed by third parties, and costs and schedule overruns can be high for both. Due diligence is also required on mobile UI options and support.
- SAP's EWM cloud vision and strategy is complex compared to many of its competitors. It has numerous deployment options and while cloud deployments are growing, only 11% of SAP's EWM customers are cloud-deployed across various hyperscalers and SAP, with only 3% on its newer multitenant option.

Softeon

Softeon, a Visionary in this Magic Quadrant, is a small, mostly privately owned SCE solution vendor in business for 23 years with total revenue of \$39 million, 83% of which is WMS revenue. It is based in North America, which accounts for the majority of its customers and revenue (79%), plus about 11% in Europe, 5% in Latin America with 5% in Asia and other regions. Although Softeon's roots are in warehousing, it has a noteworthy SCE convergence vision and portfolio that includes DOM, some transportation, direct store delivery and planning on a common technical platform. Softeon's customer base (153 customers) is modest compared to the majority of other vendors in this research, with annual growth in net new customers of about 15. However, some of these customers have very large and complex WMS implementations (Levels 4 and 5), and others, including some of its cloud users, are quite small and at lower complexity levels (Level 2). The vendor is particularly strong in 3PL (about 30% of its customers) and is growing in other industries such as retail, consumer goods, apparel, consumer electronics and healthcare.

Softeon is most often used in Level 3 and Level 4 warehouse operations, but it can scale from Level 2 to highly automated Level 5 operations. The vendor combines WMS and WES on a common platform supporting both nonautomated and more automated operations. It offers the same software in three forms: on-premises, dedicated (single-instance) cloud and multitenant cloud, and generally prefers a subscription-based pricing model. About 80% of its business is now cloud (68% dedicated cloud, 12% multitenant), with all new clients deploying on the cloud.

Strengths

- For its size, Softeon has a compelling value proposition that combines leading-edge technology with rich WMS functionality, innovative new capabilities, an SCM convergence platform and strong customer intimacy.

- In addition to strong core and extended WMS capabilities, Softeon offers a broad suite of SCE capabilities on a common platform. The platform includes functional areas such as WMS, WES, DOM, returns management, supply chain planning and direct store delivery.
- The vendor is one of the few WMS providers offering fixed-price implementations that are generally lower in cost than other vendors'. These are supported with strong implementation tools such as wizards used by both the vendor and its partners and its structured solution delivery methodology.
- Softeon offers some differentiated capabilities that include embedded and independently offered WES capabilities, end-to-end work orchestration as well as native integration to, and optimization of, technologies such as voice, put walls and robotic pick to cart.

Cautions

- Softeon remains largely an Americas-centric organization, with the vast majority of its revenue and customers in North America and Latin America with some global rollouts for its large global customers.
- Clients continue to praise its customer centricity, and Softeon's people are one of the key reasons customers selected this vendor. However, this level of intimacy is hard to scale, despite Softeon's increased recruitment of consulting resources, and is very dependent on its highly technical senior leadership.
- While it is beginning to use consulting partners, this remains a very small percentage of its business. Moving toward partners could impact its client intimacy.
- For its size, Softeon's SCE convergence strategy is compelling, and it has been pursuing aggressive product expansion. However, this can and does stress the resources of a company of Softeon's size.

SSI SCHAEFER

SSI SCHAEFER IT Solutions, a Challenger in this Magic Quadrant, is headquartered in Austria and Germany. It was formed in 2017 from various software divisions of SSI SCHAEFER Group, a Germany-headquartered company with a more than 80-year pedigree in manufacturing and warehousing materials, equipment and material handling automation. SSI provides its own WMS, called WAMAS, which can be offered both independently of material handling systems and to purely manual warehouse operations. Its 404 WMS customers are global, with 78% based in Europe and most of these clients based in the DACH region. Non-Europe-headquartered customers are split fairly evenly in other regions of the world. More than 100 of its 720 WAMAS employees work exclusively on manual warehouse and multisite deployments. The solutions are offered in a variety of combinations of MHE, WCSs and WMSs, and no part is mandatory in order to operate another. All WMS implementations are carried out by local subsidiaries, not partners, and, where required, in conjunction with engineering companies. SSI SCHAEFER's intralogistics business supports its WMS with a portfolio of consulting, implementation and system integration services. It also offers consulting services for SAP EWM, which were enhanced in July 2021 with its acquisition of a majority stake in SWAN, merging the two organizations' SAP specialists to a combined team of 120.

Approximately 93% of WAMAS deployments are in medium- to high-complexity environments, with 40% in very highly automated Level 5 environments. To date, all WAMAS deployments have been on-premises with a perpetual license model. However, WAMAS in the cloud (designed for use in manual warehouses or those with only light automation) has completed internal testing and development.

Strengths

- The vendor is a stable, family-owned organization, supported by a group with over 80 years of experience in warehouse management and extensive support for warehousing materials, MHE automation and industrial environments.
- The vendor has a strong European presence (78% of customers) with the remaining customers fairly evenly split between other regions. It is supported by the strong global presence of its parent group and local SSI SCHAEFER offices, with WMS customers in 42 countries. It also has a large workforce focused on WMS, with over 100 of its 720 WMS-/WCS-focused employees dedicated to manual and multisite warehouse operations.

- The vendor is part of a growing acquisitive group, with the MHE from all acquired organizations fully integrated with WAMAS down to the programmable logic controller (PLC) level. The vendor offers a variety of deployment models and can deploy and integrate its WMS/WCS and MHE solutions as a package or independently coordinated with other vendors' solutions.
- Despite the group's size, WMS innovation continues, including ongoing developments such as visualization tools, an automated database migration tool, a self-training WMS optimization engine and collaborative support for vertical farming initiatives.

Cautions

- The vendor's cloud deployment capability lags behind most vendors in this research, with all of its customers currently deployed on-premises. It has completed testing of a cloud option for simpler environments, but this is not yet deployed to customers.
- It lacks WAMAS market awareness outside Europe despite increased focus on the U.S. and China. While it has an extensive direct implementation network, it lacks a partner implementation ecosystem, which limits customer choice and may impact cost, especially when factoring in customization.
- The vendor lacks depth in some traditional extended capabilities that would be required for a high Level 4 people-driven environment, although it can support lower-complexity manual environments and is optimized for highly automated Level 5 environments.
- The level of implementation effort for medium-complexity (Level 3) warehouse environments exceeds that of a number of other WMS solutions designed for midlevel complexity.

Synergy Logistics

Synergy Logistics, a Niche Player in this Magic Quadrant, is a small software company focused exclusively on WMS and directly related products, such as mobile robots, with WMS revenue of \$28 million. The vendor was formed in 1972 and is based in the U.K. with additional offices in the U.S. and Spain. Synergy has a modest number of customers at around 204, with limited growth in net new customers year over year of about 18. Revenue and customers are nearly equally divided, with 51% of its customers based in Europe, 47% in North America and the remainder in other regions. It has 120 employees exclusively focused on WMSs, with most in the U.K. and North America. Its clients range from SMBs to global organizations, but its strength and differentiation are strongest in the SMB market, with almost 80% of its customers categorized as SMBs. Its top three industries representing 67% of its business are e-commerce (46%), 3PL (10%) and wholesale distribution (11%).

Its WMS SnapFulfil is most often used in Level 2 and Level 3 warehouse operations. However, it can scale down to high Level 1 and up to moderately complex Level 4 operations that don't need broad extended WMS capabilities. Synergy is one of the longer-tenured cloud WMSs offering a rapid deployment, SaaS, dedicated cloud solution.

Strengths

- SnapFulfil is built around a robust and flexible rule engine that allows high levels of noncode adaptability to support customer-specific and vertical-industry-specific requirements, which enables the vendor's rapid implementation methodology. In 2021, Synergy began to expose these tools to its customers.
- Synergy has expanded its video training/remote implementation capabilities, launched SnapBuddy in 2020 and expanded its capabilities further in 2021. It overlays instructional, interactive guidance to end users of the application and offers configuration instruction and real-time training and feedback to superusers and administrators. It also developed an automated debugging tool to further speed up implementations and resolution of service issues.
- Synergy offers a differentiated and scalable seasonal pricing strategy. It allows companies to flex their number of concurrent users and associated costs, including some hardware based on seasonal demand variations.

- For certain customers, Synergy offers a no-capital-expenditure, turnkey-managed service deployment model that combines software, cloud infrastructure, radio frequency (RF) hardware, ongoing support and updates, and implementation services as part of a single subscription fee. Customers also don't pay until they go live, which motivates Synergy to deploy rapidly within an average of eight business weeks.

Cautions

- Synergy paused its partnership efforts from 2020, so it still lacks an ecosystem of implementation partners, focusing instead on exposing use of its configuration tools to customers. Customers are dependent on the vendor for all consulting services, and these resources could be taxed if it maintains its growth rate, given its small number of employees.
- Synergy is strongest in SMBs, with nearly 80% of its customers in this space. While it is looking to move upmarket, competition will increase. This could stretch its resources as large, more complex projects consume more resources. Its approach to implementation and configuration will help mitigate this risk.
- While Synergy has better-than-average geographical revenue splits, its customers are almost all in the U.K. and North America, where the majority of its resources are domiciled, with modest growth in other countries. Deployments outside these two geographies must either be performed by the company or require remote implementation services from the vendor.
- Synergy's WMS has solid core WMS capabilities. But it lacks the breadth of the WMS Leaders and has not articulated an SCE convergence vision or strategy, despite continuing to enhance some of its extended WMS analytics and support for integrations.

Tecsys

Tecsys, a Challenger in this Magic Quadrant, is a vendor of warehouse management and companion SCE capabilities, with approximately \$95 million in software and services revenue and a CAGR of 27%. The majority of its revenue is related to WMS, where it has grown its deal size by 24% in the last year. It has been in business for more than 37 years, and a significant proportion of the company is family-owned. Tecsys has 209 WMS clients, with 86% of these in North America. About 25% of its customers are in Canada and 61% in the U.S. It has limited international presence, with about 11% of its customers in Europe and 2% in Latin America. The vendor has a strong market position in healthcare and life sciences, with 31% of its customers and 56% of its pipeline in these industries. The vendor also has a mix of SMB and large customers, with 50% categorized as midsize to large organizations.

It is most often used in Level 3 and low Level 4 warehouse operations, but it can handle Level 2 warehouse operations with some specialized Level 1 capabilities – notably, in healthcare environments. Tecsys is also about to launch a new WMS called Omni WMS, focused on low-complexity environments. Historically, the majority of Tecsys’s deployments were on-premises, purchased as software licenses. For new deals, cloud/SaaS is now the preferred deployment option with cloud penetration at 70%, but 100% of its cloud deployments are dedicated, single-instance cloud.

Strengths

- Tecsys is differentiated in healthcare, where it offers unique capabilities, compliance, domain expertise, customer experience and healthcare-focused partnerships such as with Workday. It offers specialized capabilities, such as integrating WMS upstream into hospitals for automatic replenishment and support for hospital pharmacies. This focus has driven significant growth.
- Tecsys has a relatively broad suite of SCE capabilities, including core WMS and some extended WMS, as well as complementary capabilities such as its DOM solution. It has also rearchitected its database to enhance its 3PL capabilities and support for consolidation centers.
- It is formidable in industrial equipment dealers and service parts vendors, offering specialized capabilities such as walk-up point of sale and “will call.” It offers strong capabilities for handling nontraditional inventory units of measure and for dimensional products stored, fulfilled and sold in lengths, such as wire, cable or pipe. It also has additional capabilities for controlled substances.

- Tecsyst has a robust and flexible rule engine embedded in its WMS, and, unlike some vendors, it allows customers direct access to this tool to adapt the behavior of the system without writing code. It also has a flexible and robust integration capability that allows customers to include business logic in the integration logic to support complex integration scenarios.

Cautions

- Tecsyst is one of the least global vendors in this research, with 86% of revenue coming from the vendor's home region of North America and only 12% from Europe and 1% from Latin America.
- Tecsyst's SCE convergence vision and strategy are appealing in healthcare, but its convergence capabilities in other areas, such as production or multimodal transportation, trail other leading providers.
- Almost all of the vendor's professional services resources (80%) and capacity are based in North America, and some clients report constraints on implementation resources. Tecsyst has developed a formal alliances program to mitigate this and address its lack of a robust ecosystem of active partners.
- Although Tecsyst's solution provides notable flexibility and adaptability with things like its powerful rule engine, this adds complexity, necessitating customers to ensure they have the capacity to staff and train their internal resources effectively to support this.

Vinculum

Vinculum, a Niche Player in this Magic Quadrant, is an Indian provider of a suite of cloud/SaaS-based solutions aimed mainly at e-commerce and omnichannel retail and retail-focused 3PLs, with additional locations in the Middle East and the U.S. It has a modest presence in B2B and non-retail 3PL (10% to 15% of its business). In addition to WMS, its Vin eRetail suite covers omnichannel product information management (PIM), automated listing to marketplaces, multichannel sales order management, returns, payment reconciliations, merchandising and real-time view of inventory in stores and warehouses. Its WMS can be purchased and run as a stand-alone; however, buyers get both the WMS and OMS, even if they do not intend to use the OMS. Vinculum did not meet the qualification requirements for WMS revenue, but it exceeded the criterion for customer growth with a four-year CAGR of 40%. Vinculum claims about 1,500 total customers across its suite with 575 pure WMS customers, excluding freemium users. Most of its customers (approximately 90%) are in Asia (primarily in India and Southeast Asia).

Vinculum is best-suited to emerging or small and midsize e-commerce and multichannel retailers and brands, or regional operations of larger organizations. It is one of a set of application vendors offered as part of Amazon Digital Suite to enable India's SMBs to digitize their business operations. Vinculum's WMS is best-suited to paper- or mobile-based manual Levels 2 and 3 warehouse operations, and it offers a web-based store inventory capability that supports Level 1 operations. It launched its cloud/SaaS-based WMS, Vin eRetail WMS, running on AWS in 2013, and 100% of its customers are multitenant cloud.

Strengths

- Vinculum has strong operations and significant customer growth in the emerging markets of India and Southeast Asia.
- Its pricing model (including a freemium model for low-order-volume startups), lower complexity and relatively quick implementations make it a compelling option for organizations to rapidly set up and support fulfillment operations in the region. Vinculum added a new pricing model in 2021 to help startups unsure of their volumes.
- It is specifically focused and well-positioned in multichannel e-commerce order management and fulfillment. Its cloud/SaaS application suite offers its customers the ability to rapidly scale and connect with multiple marketplaces, some of which offer benefits to brands using Vin eRetail WMS. These capabilities enabled rapid small and midmarket growth in India over 2021.
- For its size, it is a technically competent application vendor and has a strong integration framework, where it leverages APIs to connect to more than 80 marketplaces, over 200 web stores and 3PLs. It also exploits its APIs to integrate with other capabilities such as incorporating sales tax content or connecting directly with shipping companies to capture rates and generate labels.

Cautions

- Although strong in South and Southeast Asia, Vinculum has struggled to effectively penetrate North America and Europe, with limited direct and partner support and implementation resources, and no customers or resources in Latin America.
- Vinculum has the lowest revenue and number of WMS-focused employees among the vendors included in this Magic Quadrant. Although its customer numbers have grown significantly this year, most of these have been at lower cost within its primary markets, somewhat reducing its revenue growth rate.

- The WMS is best-suited to manual Levels 1 and 2 and basic Level 3 warehouse operations. It offers fewer core and extended capabilities than other vendors but continues to enhance its features, and its roadmap includes deepening partnerships to expand capabilities.
- Vinculum's WMS is principally aimed at multichannel retail and brands deploying e-commerce, with over 80% of its customers either specifically in these industries or 3PLs servicing these industries.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

No vendors were added to this Magic Quadrant.

Dropped

Micrologistics did not qualify for this year's Magic Quadrant due to not meeting the inclusion criteria on growth and revenue.

Inclusion and Exclusion Criteria

This year's Magic Quadrant for Warehouse Management Systems continues to focus on holistic WMS suites and global offerings. To be included in the 2022 Magic Quadrant for Warehouse Management Systems, a vendor must have a credible WMS product that fundamentally supports core WMS capabilities and supports some extended capabilities. The vendor must also exhibit a vision for WMSs in at least moderately complex warehouse environments. In addition to the other criteria, a vendor must demonstrate a modest global presence by generating at least 10% of its revenue outside of its home geography. This research focuses on independent WMS offerings, so a vendor must routinely sell and implement its WMS separate from other non-software-related services or products the vendor offers. Furthermore, a vendor can qualify if it has a demonstrably differentiated and unique focus and market position in a specific vertical industry. Vendors must meet the following criteria for inclusion:

- The vendor must provide a **holistic and credible WMS suite** that fundamentally supports:
 - All core WMS capabilities (e.g., receiving, put-away, stock locating, inventory management, cycle counting, wave planning, order allocation, order picking, replenishment, packing, shipping)
 - Natively supports mobile devices along with bar code scanning and possibly RFID scanning/sensing
 - Supports some extended capabilities (e.g., labor management, slotting, task interleaving, work planning and optimization, yard management, voice picking, parcel manifesting, value-added services, light manufacturing/kitting and third-party logistics [3PL] billing)

- **Significant WMS market presence:** For the previous fiscal year, the vendor must have:
 - Combined WMS license/subscription and services revenue of greater than \$20 million for the previous 12 months. Only license/subscription and services associated with the vendor's packaged WMS implementations are considered. Revenue from hardware and/or ancillary consulting services is excluded.
 - Or: The vendor must have a three-year compound annual customer or revenue growth rate of at least 20%. This is because customer and revenue growth are reliable indicators of vendor momentum and sustainability.
 - And: The vendor must have at least 100 live individual customer references holistically using the version of the WMS solution being evaluated.
 - And: The vendor must have sold at least 10 net new customers in the previous 12 months.
 - And global presence: The vendor must receive greater than 10% of its WMS revenue and/or have greater than 10% of its customer base sold, implemented and headquartered outside of its home geographical region (for example, North America, Europe, Asia or Latin America).
 - And the vendor must have direct or affiliate sales and implementation resources in three or more geographical regions.
 - And the vendor must have more than 20% of its WMS business sold independently of its other non-software-related services or products.

- **Or significant enterprise business applications software presence:** The vendor must be an application mega provider with greater than \$1 billion in enterprise application software license revenue (including non-WMS) in the previous fiscal year. This is because many end users are interested in the WMS offerings of the major suite vendors. The WMS component must be part of a suite that is active in the market and provides more than basic core WMS capabilities. The vendor must have sold at least 25 new named WMS customers in the past 12 months, as well as have at least 100 live WMS customers.
- **Or a unique and compelling market position in a specific vertical industry:** The vendor must have a unique, compelling and differentiated market position in a specific vertical industry where this differentiation is important to buyers. New customer win rates, vendors appearing in Gartner client inquiries in these industries, explicit vendor focus in these industries, client references and the vendor's reputation in the industry are considered. The vendor must also meet the revenue and number of customers criteria (i.e., WMS revenue of greater than \$20 million and at least 100 live individual customer references using the WMS).

We have not included stand-alone, specialist component providers of yard management, slotting, labor management, parcel manifesting, RF, voice, RFID or warehouse control systems (see [Warehousing and Fulfillment Vendor Guide](#)). We do not evaluate specialized WCSs or WESs that are the middleware between the WMS business application and the MHE. However, we do consider a WMS vendor if it offers a native warehouse control system as part of its WMS offering. In addition, because they are not relevant as stand-alone WMSs, we do not evaluate every ERP, MHE or suite vendor's WMS capabilities, even though these might address a particular customer's WMS needs.

Some vendors with strong WMSs, but whose businesses are principally in a single geography, did not qualify for this Magic Quadrant. This, in particular, impacted a number of WMS vendors based in Asia and Europe (see [Europe Context: 'Magic Quadrant for Warehouse Management Systems'](#) and [Asia/Pacific Context: 'Magic Quadrant for Warehouse Management Systems'](#)).

Honorable Mention

Several vendors with capable WMSs did not qualify for this Magic Quadrant. This does not mean these solutions might not be viable alternatives for some customers. We aim to ensure this research is meaningful to and easily consumable by our clients. Therefore, we limit participation in this Magic Quadrant to vendors that demonstrate current strength in market momentum, geographical coverage, product breadth and depth, and, where appropriate, unique capabilities in specific industries.

If a vendor does not meet the inclusion criteria, this alone should not prohibit users from considering it. The vendor may be strong in a user's geography or its offerings may fit the needs of a given company. Furthermore, one of these vendors may have capabilities that make it more appealing than other vendors in this Magic Quadrant – regardless of the characteristics that might have excluded it from this research. For further details on other notable vendors, please see [Europe Context: 'Magic Quadrant for Warehouse Management Systems,'](#) [Midmarket Context: 'Magic Quadrant for Warehouse Management Systems'](#) and [Asia/Pacific Context: 'Magic Quadrant for Warehouse Management Systems.'](#)

Evaluation Criteria

Ability to Execute

Depth and breadth of WMS functionality remain very important factors in choosing a new WMS, especially for companies replacing aging legacy systems. Increasingly, the technical architecture of the WMS is an important consideration for new WMS customers where adaptability, extensibility, user experience and cloud are priorities. Furthermore, while companies are buying WMS applications, they are also investing in a long-term relationship with a vendor, which increases the importance of operations. Consequently, while the breadth and depth of the WMS product remain important, customer service and operations have nearly an equivalent impact on a vendor's overall Ability to Execute. Gartner finds that customers place high importance on a vendor's ability to provide the services and support necessary to effectively implement and utilize the WMS. Service is a notable differentiator among various WMS providers, and it contributes to implementation success and overall customer satisfaction, as well as impacting upgrade cycles and TCO. Historically, WMS vendors have provided the majority of implementation services. However, certain, but not all, vendors have robust ecosystems of implementation partners that can supplement or replace the vendor's service capabilities.

The criteria used for evaluating a vendor's Ability to Execute include:

- **Product or Service** – Because of the intense transactional nature of warehousing systems, Gartner places a high value on both an offering's product and service. WMS vendors' product breadth, depth and technology are highly rated components of their Ability to Execute. The WMS market is mature and remains highly competitive, with core WMS capabilities approaching parity across vendor offerings. However, notable differences remain in extended WMS capabilities (see [Apply an Architectural Framework to Stratifying Warehouse Management Systems](#)). We evaluate the WMS products across a range of criteria, including technology and functionality. We consider the depth and flexibility of core capabilities such as receiving, put-away, picking, shipping, replenishment, quality assurance and cycle counting. We also consider the existing breadth of the application's extended WMS capabilities such as value-added services and light manufacturing, labor management, slotting, yard management, dock scheduling, automation interfaces and resource/work planning. Users with the most complex requirements and sophisticated operations are the most interested in a vendor's support for extended WMS capabilities, which remains a differentiating factor across various WMSs. Less sophisticated or less complex users are more focused on core WMS capabilities and often require less functional breadth. Thus, they could be supported by a wide variety of solutions. Because of the importance of usability, adaptability and flexibility, we place increased importance on the technical architectures of each WMS. Due to the growing demand and prevalence of cloud WMS, we also place emphasis on the vendor's cloud strategy, maturity of its cloud service offering and the technical architecture of the vendor's cloud WMS offering.
- **Overall Viability** – Near- and long-term investment risks are important issues for buyers, so vendor and product viability remain important criteria. Given the high switching cost, long time to value, challenging ROIs and long life span of typical WMS implementations, viability is again a high-importance consideration. Although viability is important, it should not overshadow product fit, vendor expertise, TCO, and service and support. Some of the vendors are quite small. While there are some viability concerns given their size, all other factors being equal, viability alone should not preclude users from considering these vendors.

- **Sales Execution/Pricing** — Sales execution and pricing are growing differentiators in the WMS market, especially internationally in emerging geographies. Sales execution and pricing are important to a vendor's performance and are notable indicators of the Ability to Execute. Therefore, this factor has been given a medium weighting. WMS license pricing was increasingly consistent across deals depending on size but remained, to a large degree, arbitrary based on the specific circumstances of an individual initiative. However, price variability is significant with cloud-based WMSs, where subscription-based pricing models dominate and de facto cross-industry standards have yet to solidify. Because this is a global evaluation, the ability of a vendor to support global sales and go-to-market channels is also increasingly important. We consider vendor capabilities for supporting multinationals choosing global solutions as well as for customers buying in select geographies.
- **Market Responsiveness/Track Record** — The WMS market continues to evolve rapidly, and WMS solutions must keep pace to remain relevant. This makes market responsiveness and track record meaningful. We assess the historical and current performance of vendors in adding to or enhancing their WMS solutions to keep up with the changing wants and needs of WMS users. As such, we give market responsiveness/record a medium weighting.
- **Marketing Execution** — While marketing promotion is important, we focus more on a vendor's product marketing. We look at the vendor's product management team, processes and product roadmap to support ongoing innovation, track record of delivering on plans, and ability to respond to market forces. We also look at a vendor's visibility in the market and how often they organically appear on buying long lists, which is indicative of a compelling go-to-market strategy and execution. As such, we give marketing execution a medium weighting.
- **Customer Experience** — A WMS vendor's ability to use and exploit functionality to drive business value and provide a suitable customer experience is a critical element of its Ability to Execute. We consider a vendor's track record with complex and sophisticated customers, but also its ability to effectively and efficiently service less demanding customers that make up a large percentage of the overall WMS market. Also important is client satisfaction with a vendor's products as well as services, and how much warehousing experience the vendor has and how it can employ this to help customers fully exploit their WMS investments. Although client satisfaction is always important, we also consider the nature of the relationships that vendors establish with clients, and whether these are operational or strategic. The size and growth of a vendor's client bases locally and internationally are also very important because they demonstrate the vendor's ability to identify and satisfy the needs of customers around the world. Thus, we give customer experience a high weighting.

- Operations** – Operational competence is a very important criterion. It considers a vendor’s ability to meet its goals, obligations and commitments on an ongoing basis. There are marked differences in capabilities across vendors, as confirmed by customer references. Vendor support, maintenance, business and technical consulting, and field operations are important parts of the WMS selection process. Factors include the quality of the organizational structure, as well as the skills, experience, programs, systems and other vehicles that enable an organization to operate effectively and efficiently on an ongoing basis. As projects become more complex, a vendor’s ability to not only sell and implement a solution but also help customers fully exploit their WMS investments is critical to long-term success. Finally, a vendor’s management structure, experience, skill and expertise play a significant role in a vendor’s ability to harmonize its vision, strategy, tactics and actions. Therefore, we give operations a high weighting.

Table 1: Ability to Execute Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	High

Source: Gartner (June 2022)

Completeness of Vision

Vendors' domain expertise, technology vision and vision for the WMS of the future rank highly. We consider vendors' knowledge and vision for warehousing and, more broadly, logistics management both locally and internationally. We also consider a vendor's vision for warehouse process innovation, not simply process execution, which means demonstrating a compelling vision for how warehousing, business and logistics trends will influence warehousing and WMSs in the future. For example, as concepts like multichannel commerce have rapidly emerged in retailing, some vendors have responded quickly to these needs, have established a leadership position and are poised to exploit these concepts in other industries. While the emergence of new deployment models like cloud and multitenant SaaS had previously differentiated WMS vendors, the impact of deployment models has diminished as the majority of WMS vendors now offer some form of cloud strategy. However, there remains a continuing debate among vendors and buyers on whether multitenant SaaS is demonstrably better than dedicated cloud. We consider these factors in our evaluation.

A WMS is one important part of integrated logistics, or what Gartner refers to as SCE convergence. Consequently, vendors are also evaluated on how well they understand this emerging concept and what strategies they have to move in this direction. While having a WMS vision is notable, a vendor's vision for broader SCE convergence is critical to moving farther to the right side of the Magic Quadrant, and this differentiates offerings. Because SCE convergence is an emerging best practice, we also consider vendor strategies to support this concept beyond basic data or transaction integration.

The criteria used for evaluating a vendor's Completeness of Vision include:

- **Market Understanding** – Although the WMS market is mature, we see accelerated need for innovation in areas such as user experience, adaptability, decision support, material handling automation integration, and work planning and optimization. The dramatic changes embodied in ongoing market shifts will require considerable nimbleness and competency as well as investment on the part of vendors. Therefore, in this Magic Quadrant, we place strong emphasis on a vendor's understanding of these market dynamics and its product strategies to support these needs. Exhibiting and articulating a vision for where WMSs will be in the future and exhibiting an innovative culture remain distinguishing characteristics among vendors. A demonstrated knowledge, proficiency and differentiated vision of the current and future warehouse management marketplace are critical considerations. Market understanding assesses the WMS vendor's ability to understand WMS buyers' wants and needs, and to translate them into products and services. Vendors that show the highest degree of vision listen to, anticipate and understand buyers' wants and needs, and can augment customer insight with their own WMS visions. Vendors that simply respond to current market requirements without anticipating future requirements will likely be unsuccessful over the long term. Consequently, we give market understanding a high weighting.
- **Marketing Strategy and Sales Strategy** – Until recently, marketing strategy and sales strategy have had modest impacts on the WMS market, which had historically been dominated by specialist vendors focused on warehousing and logistics. Today, marketing and sales strategy are becoming more important, particularly as mega vendors become stronger WMS providers. Furthermore, as cloud becomes the dominant WMS delivery model, a vendor's approach to promoting its offering becomes more important. We consider vendors' strategies for establishing their WMS brand and how they develop strategies and tactics for local and international expansion. Therefore, we give marketing strategy and sales strategy each a medium weighting.

- **Offering (Product) Strategy** – Offering (product) strategy is critical and has a high weighting. It refers to a WMS provider’s approach to product marketing, research and development, and solution delivery that emphasizes differentiation. We consider strategies for functionality, usability, technology, adaptability, delivery methodologies and feature sets as they map to current and future WMS requirements, market trends and technology evolutions. In addition, we consider vendors’ SCE convergence strategies for supporting end-to-end processes that span functional areas, such as order management, warehouse management, transportation, trade compliance, manufacturing and materials safety. A vendor’s understanding of these market changes and its product strategies for successfully navigating these changes significantly influence a vendor’s Completeness of Vision. All qualifying solutions in this Magic Quadrant handle basic core WMS capabilities.
- Another distinguishing characteristic of vendors moving to the right in the Magic Quadrant will be the breadth of their WMS – what Gartner refers to as an “extended” WMS. We place importance on the vendor’s current and planned support for WMS “systems of innovation” capabilities such as value-added services and light manufacturing, labor management, slotting, yard management, dock scheduling automation interfaces, resource/work planning, SCE convergence and enhanced user experience. Finally, the technical architecture of the WMS has become a notable distinguishing characteristic of various offerings. We observe significant differences in strategies, visions and product roadmaps related to architectural issues such as user experience, adaptability, flexibility, composability and exploitation of advanced capabilities like analytics and artificial intelligence.
- **Business Model** – The soundness and logic of a vendor’s underlying business propositions are key indicators of a vendor’s sustainability and how its overall strategies and tactics might affect its ongoing success in the WMS space. For example, one vendor might focus on organic innovation, while another might concentrate on buying innovation through mergers and acquisitions. While the former might have a longer gestation period, it has potential product and technical advantages. The latter might allow a vendor to get to market faster but cause longer-term product issues. This year, more emphasis has been placed on a vendor’s business model, processes and the maturity of its cloud offering. Therefore, we give business model a medium weighting.

- **Vertical/Industry Strategy** – Vertical/industry strategy is evaluated, but not considered critical, so we give it a medium weighting. Because of the maturity of the WMS market, many vendors have customers across multiple industries and have added the necessary functionality to support the needs of various industries. However, there are some limited instances where vertical/industry strategies can be more important in certain areas where the need of the specific industry is unique and requires specialized capabilities in or around the WMS. For example, WMSs serving healthcare provider networks need strong integration with patient care. We consider not only product functionality but also how vendors address industry verticals from a product management and go-to-market perspective.
- **Innovation** – Leaders and Visionaries will be the vendors on the forefront of transformation; consequently, we give innovation a high weighting. Innovation and thought leadership continue to play a strong role in this year's evaluations because innovation remains a critical differentiator. Vendors must demonstrate the ability to continuously support innovation by staying close to the most creative solutions or complicated problems in the market to drive pioneering functionality. While thought leadership is high-ranking, a track record of commercializing innovation is equally, if not more, important. WMS innovation is critically important even though core warehousing common practices have been well-established for decades. Leading vendors continue to enhance core WMSs with more investment in an extended WMS, where a greater emphasis is placed on improving warehouse performance through decision support, analytics and optimization. We also evaluate how a vendor is innovating with respect to SCE convergence, in particular WMS integration and process orchestration with yard, dock, TMS and manufacturing. Innovation is not exclusive to product functionality; go-to-market and delivery originality are also notable sources of solution differentiation.
- **Geographic Strategy** – This research is focused on the global WMS marketplace; thus, we give geographic strategy a high weighting. Geographic strategy looks at technology providers' strategies for directing resources, skills and offerings to meet the specific needs of global logistics in terms of a multigeography WMS (including multilanguage and multicurrency). We also assess vendors' abilities to support global warehousing requirements beyond core WMS functionality, as well as how the vendor plans to address the varying needs of WMS users around the world. Geographic strategy is also increasingly important for maintaining a strong presence throughout the global market, especially since market growth is expected to be greater in emerging international markets over the next decade. Several vendors did not qualify for this research because they lacked the necessary global presence, but many of these remain strong offerings in their respective regions.

Table 2: Completeness of Vision Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Medium
Innovation	High
Geographic Strategy	High

Source: Gartner (June 2022)

Quadrant Descriptions

Leaders

Leaders combine the uppermost characteristics of vision and thought leadership with a strong, consistent Ability to Execute. Leaders in the WMS market are present in a high percentage of new WMS deals, win a significant number of them and have a large and growing customer base. They have robust core WMSs and offer reasonable – although not necessarily leading-edge – capabilities in extended WMS areas, such as labor management, work planning and optimization, slotting, returns management, yard management and dock scheduling, and value-added services. To be a Leader, a vendor doesn't necessarily need to have the absolute broadest or deepest WMS application. Its offerings must meet most mainstream warehousing requirements in complex warehouses without significant modifications, and a substantial number of high-quality implementations must be available to validate this. Leaders must anticipate where customer demands, markets and technology are moving, and must have strategies to support these emerging requirements ahead of actual customer demand. Leading vendors should have coherent strategies to support SCE convergence, and they must invest in innovation, have a proven track record in commercializing advancements and have processes to exploit innovation. Leaders also have robust market momentum, market penetration and market awareness, as well as strong client satisfaction – in the vendor's local markets as well as internationally. Leaders also understand the importance of alliances and develop robust ecosystems of partners. Because Leaders are often well-established in leading-edge and complex user environments, they benefit from a user community that helps them remain in the forefront of emerging needs.

Key Characteristics:

- Reasonably broad and deep WMS offerings
- Proven success in moderate- to high-complexity warehouse environments
- Participation in a high percentage of new deals
- Strong new customer growth
- Large customer installed base
- A strong and consistent track record
- Consistent performance and vigorous new client growth and retention
- Enduring visibility in the marketplace from both sales and marketing perspectives

- Compelling SCE convergence strategy and capabilities
- A proven ecosystem of partners
- Global scale

Challengers

The critical characteristic of Challengers is that they have capable, proven and mature products, with numerous live customers, and an overall solid and well-recognized position in the marketplace. They also have consistent track records of successful implementations. Challengers' offerings often run some very large and complex warehousing facilities. These solutions are in use by a large number of individual enterprises supporting multiple warehouse operations locally and worldwide. While vendors in this quadrant provide solid and established WMS solutions, there is generally one or more insufficiencies in offerings or go-to-market strategies when compared with the Leaders. These solutions are preferred by buyers that favor Ability to Execute over Completeness of Vision. Vendors can have practical visions for these solutions and, more generally, SCE, but delivery against vision and thought leadership is typically not on par with solutions of the vendors in the Leaders quadrant.

Key Characteristics:

- A capable, proven and mature WMS, with numerous live customers
- A consistent track record of successful implementations
- Often run some large and complex warehousing facilities
- Offerings are not as broad or deep as WMS Leaders
- Lacking or trailing in having a compelling SCE convergence strategy and capabilities
- Generally lacking the overall thought leadership, innovation or compelling visions of next-generation WMSs

Visionaries

To be a Visionary, a vendor must have a coherent, compelling and innovative strategy that seeks to deliver a differentiated, robust and vibrant offering to the market. Visionaries are often thought leaders in one or more WMS solution dimensions (for example, functionality, services, vertical industry, or go-to-market or deployment strategies), and they tend to be on the leading edge of some emerging concepts. However, these offerings have some deficiencies in their Ability to Execute in areas such as viability, growth, global scale or operations. At a minimum, vendors in the Visionaries quadrant fall into one of two broad categories. They can be established WMS vendors that have yet to mature into leading positions in the market, or they can be innovative specialist vendors with unique and potentially disruptive views of where the market is going. These vendors can exhibit innovation in some areas but lack it in other areas.

Key Characteristics:

- A coherent, compelling and innovative strategy that seeks to deliver a robust and vibrant offering to the market
- A thought leader in one or more WMS solution dimensions that tend to be on the leading edge of emerging concepts
- A yet undemonstrated ability to handle a broad range of complex user requirements
- Execution gaps (e.g., viability, growth, global scale or operations)
- Lacking or trailing in having a compelling SCE convergence strategy and capabilities
- Differentiated innovation in WMS products, services, vertical, or go-to-market or deployment strategies

Niche Players

Although there might be an assumption that vendors in the other quadrants are better choices for new WMS buyers, in certain circumstances, Niche Players are just as good or better choices for prospective users. This is because they might focus on a geographic or vertical component of the market that is meaningful to particular users. However, this focus alone is not a compelling enough differentiator for a vendor to occupy a leadership position. It would also have to perform well in other dimensions. Although some vendors in the Niche Players quadrant have solid WMS solutions for a specific industry or geography, they are not as broad as the WMS solutions in other quadrants. They likely won't evolve enough to comprehensively support SCE convergence for the foreseeable future.

Key Characteristics:

- Might focus primarily on a geography or vertical market
- Not a generally differentiated offering, although may have some unique capabilities
- May not be well-established and visible in the broader WMS market but have growing visibility in their target market
- A narrow focus on specific WMS features (i.e., not as broad or deep a WMS)
- Market momentum and product or company viability may be in question
- Lacking in SCE convergence

Context

Gartner continues to find that WMS buyers place particular emphasis on WMS product breadth and depth, vendor expertise, and customer service and support. Vendor and product viability, as well as TCO and time to value, have become increasingly important criteria, nearly approaching the importance of functionality. As the market has approached parity, implementation tools and methodologies as well as integration with other applications have become more important considerations in customer evaluations.

Cloud has become the preferred WMS deployment option with close to 70% of new customers preferring cloud if the economics are reasonable. But with a large existing installed base for on-premises WMS, a little over a quarter of completed deployments are cloud, with around 8% multitenant cloud. In low- to moderate-complexity warehouses, subscription pricing models for cloud/SaaS WMSs reduce short-term costs, which is fueling increased interest in this market. However, for larger and more complex environments, WMS cloud pricing is confusing to buyers since a de facto standard pricing model has yet to emerge, and long-term (10- to 15-year) costs seem unreasonably high to many buyers. Furthermore, while named users was the dominant pricing model for on-premises WMS, more recently, pricing based on order lines and other factors is emerging as an option, which exacerbates buyer confusion when comparing offerings with notably different pricing methodologies.

Customers now focus more attention on the value-adding capabilities that surround core WMS capabilities, due to the compelling need to address labor shortages and rising costs. Examples include workforce management, task interleaving, slotting, yard management, dock scheduling and performance management. These have now become common requirements in all but the most basic WMS deals. Furthermore, labor shortages are motivating companies to consider various forms of automation from autonomous mobile robots to complex conventional material handling automation systems that are often found in Level 5 warehouse operations. Consequently, buyers are increasingly interested in how various WMS offerings will support automation now and in the future.

Technical architecture and adaptability are now notable considerations in WMS evaluations. Finally, as companies have expanded their numbers of distribution points and have evolved to more distributed networks, supporting diverse operations, organizations have warehouse operations that span from very simple Level 1 warehouses to highly complex Level 5 and everything in between. While functional depth and breadth are important for the complex operations, simplicity and ease of use are much more compelling needs for Level 1 and 2 operations.

Market Overview

There are no new entrants, and one vendor was dropped from the Magic Quadrant this year. However, there has been movement within and across quadrants with EPG and Tecsys entering the Challengers quadrant for the first time. Additionally, there have been a number of acquisitions, investments and restructures within the WMS market over the last year, including Blue Yonder, Mantis and Körber. While vendor and product evaluations for this Magic Quadrant have not changed dramatically from 2021, they have become harder to achieve for some vendors impacted by continuing disruption and significant geopolitical impacts on some of their customers and resources, with examples of stalled and negative growth for some, while others benefited from urgent focus on areas such as e-commerce. Both vendors and Gartner clients have reported constraints on WMS implementation resources driving innovation in deployment approach. There has been growth in the need for adaptable solutions (with some vendors offering seasonal software and hardware subscriptions), cloud deployments and support for automation and robotics given the continued impact of the disruptive events of the last two years. Requirements for international sales and revenue again impacted certain regional WMS vendors that have good offerings but lacked the appropriate level of international revenue to qualify. Gartner started the process for this research considering over 70 WMS providers, but only the 17 vendors highlighted here provided the evidence that they met the documented inclusion criteria. The WMS market is a long-tail market with six vendors continuing to dominate in terms of number of customers and WMS revenue. Yet there are many other WMS vendors with viable offerings gaining ground, including those that did qualify for this research and others that did not.

Specialist WMS vendors continue to dominate the most sophisticated and complex warehouse environments due to the breadth and depth of their current applications, their thought leadership and their position as the vendors that others look to emulate. They have moved beyond basic WMSs, expanding their portfolios vertically and horizontally. In this Magic Quadrant, Blue Yonder, Körber and Manhattan Associates remain in the Leaders quadrant largely due to their experience serving these large, complex users with functionally broad and deep WMSs. These vendors tend to differentiate themselves most when extended WMS capabilities are a greater aspect of the functional evaluation because their systems are broader and deeper in these areas. These solutions have been implemented in some of the most complex warehouse environments. Moreover, these vendors have extensive experience in SCE, as well as compelling visions for how WMSs and, more broadly, SCE will evolve over the next five years.

Mega vendor WMSs (i.e., Infor, Oracle and SAP) continue to evolve, with vendors adding depth to their core WMS capabilities as well as some extended WMS capabilities. Although these solutions have yet to match the overall depth and breadth of Blue Yonder and Manhattan Associates, they have become viable alternatives for existing customers of the mega vendor that are looking for good enough WMS capabilities. Infor, Oracle and SAP remain in the Leaders quadrant this year due to several factors. These include the strength of their market growth, ability to serve global customers, innovation in areas surrounding WMSs, compelling SCE convergence strategies and overall market acceptance. These mega vendors have momentum internationally because they are organizationally well-positioned globally. Furthermore, the majority of companies in emerging geographies lack the process maturity or WMS sophistication to necessitate adoption of the most functionally robust solutions, making the WMS of their suite provider acceptable. This does not mean that other vendors don't have advantages worth consideration by prospective customers. For example, customer intimacy, time to value, geographical scope or vertical industry expertise could all favor other vendors in certain circumstances.

The Visionaries quadrant is populated with vendors solidifying their positions as thought leaders while maintaining their Ability to Execute. They exhibit one or more of the following characteristics – innovative and differentiated solutions, a compelling and unique position in a specific vertical market, or distinctive go-to-market strategies. Vendors in this quadrant, while innovative and offering intriguing solutions, have yet to solidify their long-term viability and global market positions. Softeon, although small, is an innovator, leveraging a strong service-oriented architecture (SOA) platform to challenge the traditional WMS vendors. It is extending WMS concepts into unique markets such as digital product logistics. Reply maintains its position in this quadrant, mainly due to its innovative approach to WMS architecture, supporting technologies and cloud-first strategy.

Several vendors are positioned in the Niche Players quadrant. Niche Players' solutions are often functionally sufficient or, in some cases, excellent choices for many companies addressing a variety of needs, some of which are outside pure WMS capabilities, such as Vinculum's ease of integration to marketplaces. However, these offerings might lack the global scale, WMS depth or breadth, number of clients, customer references or business viability of the leading vendors in the market. Mecalux is notable for its blend of support for the midmarket in both manual and automated environments. Synergy Logistics is notable for its support for rapid deployments and has been expanding its remote deployment tools. Made4net, while qualifying for the Magic Quadrant for the first time on overall revenue rather than CAGR, continues its rapid customer growth and has greater focus on product development following its acquisition. Mantis is notable for its flexible self-serve capabilities, and its recent acquisition by Ecovium brings opportunities to rapidly grow its presence in territories where it was lacking. Generix Group is notable for its model-driven architecture that enables more user adaptability of the WMS during and after implementation.

Vendors that make it into the Challengers quadrant are mature, functionally solid and proven, with strong track records of customer adoption and successful deployments. Their solutions can scale to support Level 3 or higher warehouse operations, and they have strong core WMS capabilities and some extended WMS capabilities. Although offerings in the Challengers quadrant are normally functionally robust, the vendor or specific solution is not at the forefront of innovation. The vendor is not typically a WMS market or thought leader, or the early provider of innovation. These vendors might have one (or more than one) strong product, but their overall market position has not yet advanced far enough to move into the Leaders quadrant. Notably, two vendors, EPG and Tecsys, moved into the Challengers quadrant, joining SSI SCHAEFER IT Solutions, a new entrant to the Magic Quadrant last year. SSI SCHAEFER IT Solutions is noteworthy for the demand for its solution and support for automation. EPG's growth, vision for extended capabilities such as workforce management and support for automation has propelled it into this quadrant. Tecsys's continued growth and adaptability have driven its position into the Challengers quadrant. It is also notable for its healthcare capabilities and collaborative partnerships in this industry.

Vendors continue to innovate with continuing focus on enhancing their technical architectures with some like Reply and Manhattan Associates already having rewritten their WMS using a microservices architecture that allows continuous upgrades and extensibility in a multitenant cloud environment, giving greater potential for composability.

Evidence

Gartner used multiple data sources to help analyze and assess each vendor in this Magic Quadrant. These sources included:

- **Vendor presentations and demonstrations to the Gartner analyst team** – Specifically, to support this research, each vendor is allotted time to present information about its company and solutions. Each vendor is allotted the same amount of time for this research, but Gartner also conducts interactions with vendors throughout the year as part of normal and ongoing relationships with user and vendor clients. In addition to the live presentation and demonstrations, each vendor provided a prerecorded, 30- to 40-minute demonstration of its core WMS and ease of configurability capabilities.
- **Research and data collection** – Each vendor is also asked to respond to and fill out a survey that investigates, in more detail, factual information about its company and WMS offerings. This includes current operations, solution sets, strategic directions, technology vision, and market and industry focus. Also, as part of this exercise, Gartner reviews customer references on Gartner Peer Insights submitted in the last 12 months.
- **Customer inquiry** – Throughout the year, Gartner takes approximately 1,350 client inquiries on various topics related to WMS and WMS vendors. This information supplements, not replaces, the core information collected during this research.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

Document Revision History

[Magic Quadrant for Warehouse Management Systems - 30 June 2021](#)

[Magic Quadrant for Warehouse Management Systems - 6 May 2020](#)

[Magic Quadrant for Warehouse Management Systems - 8 May 2019](#)

[Magic Quadrant for Warehouse Management Systems - 2 May 2018](#)

[Magic Quadrant for Warehouse Management Systems - 13 February 2017](#)

[Magic Quadrant for Warehouse Management Systems - 21 January 2016](#)

[Magic Quadrant for Warehouse Management Systems - 30 September 2014](#)

[Magic Quadrant for Warehouse Management Systems - 15 May 2013](#)

[Magic Quadrant for Warehouse Management Systems - 27 February 2012](#)

[Magic Quadrant for Warehouse Management Systems - 29 July 2010](#)

[Magic Quadrant for Warehouse Management Systems - 6 April 2009](#)

[Magic Quadrant for Warehouse Management Systems, 2007 - 11 January 2008](#)

[Magic Quadrant for Warehouse Management Systems, 2006 - 29 March 2006](#)

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

[How Markets and Vendors Are Evaluated in Gartner Magic Quadrants](#)

[Apply an Architectural Framework to Stratifying Warehouse Management Systems](#)

[Tool: Stratify Your Warehouse Operations to Determine the Right-Fit WMS and Improvement Strategy](#)

[Use Gartner's Model to Understand the 10 Dimensions of Warehouse Complexity Before Evaluating WMS Solutions](#)

[Choose the Right Software and Services to Meet Rising Demand for Low-Complexity and Pop-Up Operations](#)

[Guidance From 2,100 Lessons Learned – Institute Governance and Modification Control to Avoid Failure and Delays to Your WMS Implementation](#)

[Design a Robust Integration Plan Before WMS Implementation to Maximize Value and Adaptability](#)

[Answer These 7 Questions to Position the Strategic Arguments for a New or Replacement WMS](#)

[Top Technology Trends Transforming Warehousing Over the Next 5 Years: Part 1, Improving Upgrades](#)

[Top Technology Trends Transforming Warehousing Over the Next 5 Years: Part 2, Handling Volatility and Complexity](#)

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Table 1: Ability to Execute Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	High

Source: Gartner (June 2022)

Table 2: Completeness of Vision Evaluation Criteria

<i>Evaluation Criteria</i> ↓	<i>Weighting</i> ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Medium
Innovation	High
Geographic Strategy	High

Source: Gartner (June 2022)