Magic Quadrant pour les systèmes de gestion d'entrepôt

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Les fournisseurs de WMS défient les leaders établis du marché en ciblant des demandes critiques telles que le coût de possession, l'assistance en matière d'automatisation/robotique, l'adaptabilité et les services cloud. Les responsables de la technologie de la chaîne d'approvisionnement peuvent utiliser cette recherche pour comprendre l'état actuel du marché WMS et obtenir des informations sur les fournisseurs.

Définition/description du marché

Gartner définit un système de gestion d'entrepôt (WMS) comme « **une application logicielle qui permet de gérer et d'exécuter intelligemment les opérations d'un entrepôt ou d'un centre de distribution (DC)** ».

Les applications WMS offrent des fonctionnalités de base telles que :

- Recel

- Rangement

- Localisation des stocks

- Gestion de l'inventaire

- Comptage cyclique

- Entrelacement des tâches

- Planification des vagues

- Affectation des commandes

- Préparation des commandes

- Réapprovisionnement

- Emballage

- Livraison

- Gestion de la main-d'œuvre

- Interfaces pour les équipements de manutention automatisés (MHE)

Ces systèmes exploitent nativement les appareils mobiles ainsi que les codes-barres et, éventuellement, la numérisation/détection RFID pour former la base transactionnelle d'un WMS. Cela permet d'améliorer l'efficacité de l'activité de travail dirigée et de fournir des informations précises en temps quasi réel. Gartner inclut également des fonctionnalités intégrées aux fournisseurs de WMS (ce que nous appelons des capacités WMS étendues (voir **Appliquer un cadre architectural à la stratification des systèmes de gestion d'entrepôt**) en tant que composants de cette évaluation WMS.

Ces fonctionnalités WMS étendues sont les suivantes :

- Gestion de la main-d'œuvre et de la main-d'œuvre

- Mortaisage

- Gestion de la cour

- Sélection vocale

- Manifeste de parcelle

- Services à valeur ajoutée tels que la fabrication légère et la mise en kit

- Facturation de la logistique tierce partie (3PL)

Nous n'envisageons pas de solutions autonomes dans ces domaines dans le cadre de cette recherche.

Le marché global du WMS se décompose en cinq grands types de fournisseurs, dont les quatre premiers sont couverts dans ce Magic Quadrant :

- **Mégafournisseurs** d'applications : ces fournisseurs proposent de vastes portefeuilles d'applications dans de nombreuses catégories d'applications (par exemple, les finances du back-office, la gestion du capital humain [HCM], la gestion de la relation client [CRM], la gestion des commandes clients, la fabrication, la planification des ressources d'entreprise [ERP] et la gestion de la chaîne d'approvisionnement [SCM]). Bien que ces fournisseurs puissent offrir une variété de solutions de gestion de la chaîne d'approvisionnement (SCM), ils n'offrent pas nécessairement une plate-forme intégrée. Infor, Microsoft, Oracle et SAP sont considérés comme des méga-fournisseurs avec des offres WMS.

- **SCM suite vendors** — These vendors offer a holistic WMS, plus a portfolio of two or more applications focused primarily on SCM. This 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), manufacturing or sourcing and procurement, but not other functional areas such as financials, CRM or HCM. 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, Körber and Manhattan Associates.

- **Specialist WMS suite vendors** — These are independent software vendors (ISVs) that focus primarily, but not necessarily exclusively, on holistic WMS suites. In addition to WMSs, they might offer 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 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 at a substantial level. 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. For vendors in this category, see Warehousing and Fulfillment Vendor Guide, Market Guide for Yard Management and Market Guide for Multicarrier Parcel Management Solutions.

WMS Market Considerations

All solutions in this Magic Quadrant 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 macro factors and disruptions have spurred innovation. However, while economic and business conditions are challenging for some vendors and regions, the overall market is forecast to exceed $3.35 billion by 2027 with a five-year compounded annual growth rate (CAGR) of 9.9%. 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 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 divergence in the WMS market between the high-performance, complex and sophisticated end of the market and the mass market, where functionality needs only to be "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. Gartner defines Level 1 as the most basic warehouse operation 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 divergence 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. It makes for a healthy, albeit 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. Here, companies could be served well with any good WMS, and they could be satisfied with a megavendor-provided WMS or a less functionally robust ISV WMS offering.

Although functionality remains the No. 1 user evaluation criterion, there's near-functional parity for basic core WMS capabilities across WMS providers. Given the mature state of the WMS marketplace, a combination of the following vendor and product factors 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 composability, adaptability and extensibility

- The vendor's cloud strategy, capabilities and technical architecture

- 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

- Des outils et des technologies embarqués dans le WMS pour faciliter les implémentations et le support

- Expérience client (à partir des références clients et des interactions clients Gartner)

- Stratégie de convergence SCE (une plate-forme d'orchestration SCE parfaitement intégrée)

Quadrant magique

Figure 1 : Magic Quadrant pour les systèmes de gestion d'entrepôt

Points forts et mises en garde des fournisseurs

Bleu là-bas

Blue Yonder est un leader dans ce Magic Quadrant. Il s'agit du plus grand fournisseur de suites SCM dans cette évaluation, avec un chiffre d'affaires d'environ 1,25 milliard de dollars en 2022, dont 928 millions de dollars de revenus logiciels. Son chiffre d'affaires lié aux logiciels WMS s'élevait à 190 millions de dollars en 2022. En 2021, Panasonic a fait l'acquisition de Blue Yonder, qui opère de manière indépendante sous l'égide de Connected Solutions Company de Panasonic. Blue Yonder propose un portefeuille de suites de solutions SCM individuelles qui comprend la gestion d'entrepôt, l'exécution d'entrepôt, la gestion de la main-d'œuvre, la gestion du transport, la planification de la chaîne d'approvisionnement, le merchandising et la planification de la vente au détail.

Blue Yonder compte près de 1 000 clients WMS (environ un tiers d'entre eux utilisent son ancien produit Dispatcher), avec un nombre modeste de nouveaux clients en 2022, mais un nombre important de déploiements multisites. Ses clients sont répartis dans 19 secteurs verticaux avec des atouts notables dans les secteurs 3PL, de l'alimentation et des boissons, des produits de consommation, de la vente au détail et des produits pharmaceutiques. Environ 50 % des clients

WMS de Blue Yonder sont basés en dehors de sa zone géographique d'origine, l'Amérique du Nord. Elle dispose d'un réseau mondial de 88 partenaires, dont 39 en Amérique du Nord, 17 en Europe, 20 en Asie et 12 en Amérique latine. Depuis environ trois décennies, Blue Yonder travaille dans certains des environnements d'entrepôt les plus complexes, et continue de se concentrer principalement sur le haut de gamme du marché WMS.

La gestion d'entrepôt de Blue Yonder est le plus souvent utilisée dans les opérations d'entrepôt de niveau 3 et 4, où la robustesse fonctionnelle du WMS est appréciée par les clients dont les besoins sont plus sophistiqués et complexes. Cependant, il peut évoluer de niveaux 2 à 5, où il compte un grand nombre de clients hautement automatisés. Blue Yonder passe d'un modèle de déploiement sur site à un modèle cloud/SaaS, avec environ 80 clients en SaaS aujourd'hui et 90 % des nouvelles réservations désormais en SaaS. Blue Yonder a récemment élargi son approche adaptée à l'usage pour inclure des services WMS pour les environnements moins complexes (tels que les magasins et les centres de micro-réalisation), pris en charge par un produit distinct appelé Adaptive Fulfillment and Warehousing (AFW), qu'elle teste auprès de quelques clients.

Strengths

- Blue Yonder is distinguished by the maturity, adaptability and capabilities of its core and extended WMS functionality, as well as by its supply chain convergence vision. It is strong in workforce/labor management, labor forecasting and scheduling, traceability and performance management.

- Blue Yonder has a strong partner network that leads more than 50% of its new WMS deployments. This partner-focused approach, combined with technology partnerships such as for automated testing and API-based connectors with technology providers, is driving a more agile implementation methodology for lower- to medium-complexity environments.

- Blue Yonder has combined its various optimization capabilities into a package it calls Luminate Warehouse Execution System (LWES) to provide better orchestration between multiple robotics providers, humans and its WMS. The Panasonic acquisition also increases opportunities to exploit edge technologies, such as for yard 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.

Cautions

- Migration and upgrade strategies for legacy WMS customers may be complicated by Blue Yonder's platform vision and its new AFW solution. It is taking an incremental approach to moving new warehouse capabilities onto Luminate.

- The vendor's current WMS is not a true multitenant cloud built using microservices. Its incremental and hybrid approach to moving to microservices and multitenant cloud might be OK for existing customers (and was selected with the intent to reduce risk), 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.

- Blue Yonder's roadmap to update to a cloud-native architecture (Beacon-based WMS) could add further technical complexity when seeking to preserve highly customized and third-party extended legacy deployments, despite new capabilities offered.

Ehrhardt Partner Group (EPG)

EPG is a Challenger in this Magic Quadrant. It is a German WMS/logistics solution provider with revenue of approximately $122 million (75% 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 900 employees focused on logistics software and hardware solutions. In addition to its WMS solution, 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 with, and independent from, the WMS. In March 2023, EPG acquired a majority stake in Netherlands-based supply chain consulting organization Groenewout, complementing its own consulting capabilities.

EPG's largest customer industry segments are 3PL, retail/e-commerce, industrial and construction machinery, automotive/parts and consumer products (82% of its total customers). It offers industry-specific functions for many of these segments and food/beverage, pharma/healthcare and textiles. Of EPG's 832 WMS customers and 1,550 total supply chain execution customers, 71% are based in Europe (mainly in the DACH region, the Czech Republic, Spain and Poland). About 12% of its customers are in the Middle East and Africa, with 9% in North America, 5% 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 5 warehouse operations, but it can scale from high Level 3 through Level 5 operations. Most of EPG's customers (80%) have deployed or 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 in revenue and customers. It has almost 35 years of experience in warehouse management and extensive support for MHE automation and industrial environments.

- 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 with other WMS vendors in this research.

- 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 and extended workforce management, contract and billing, and predictive maintenance for automated facilities. It has multisite enablers and is edging into transportation with vehicle routing and scheduling (Greenplan).

Cautions

- While growing faster internationally, EPG's implementation resources and partners are not balanced across all regions, despite new European acquisitions, with most partners, especially in North America, focused on its voice solutions. Seventy-one percent of its WMS customers and 61% of its revenue remain in Europe (54% 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 a good fit for complex and highly automated environments, LFS is not optimized for lower-complexity operations and its usability is undifferentiated in this respect.

- 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 is a Niche Player in this Magic Quadrant. It 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). Since 2022, the capital structure has been owned by Montefiore Investment and Pléiade Investissement together with the management of the company, making Generix fully privately owned and delisted from the stock market. Approximately 50% of Generix's $89 million in revenue through 2022 comes from total WMS revenue, and more than 270 of its 800 employees are focused on WMS. Of its 464 WMS customers, 72% are based in Europe, accounting for 80% of its revenue, with around 20% of its customers in North America and the remainder (8%) distributed in other regions. Its WMSs are deployed in 34 countries, with the largest market in France (more than 150 customers). Seventy-eight percent of Generix's WMS revenue is from consumer products manufacturers, retail (including e-commerce) and 3PL, with 3PLs representing its largest customer segment and retail a close second.

The company offers two distinct WMS solutions: Generix WMS and SOLOCHAIN WMS. Generix WMS is deployed across approximately 375 customers and 1,960 warehouses. SOLOCHAIN is a contemporary WMS and manufacturing execution system (MES) solution with 90 customers in Canada, the U.S. and Mexico, and a small presence in South Korea and Australia.

Generix's WMSs are most often used in Level 2 through 4 warehouse operations, but Generix WMS in particular scales to Level 4 and some Level 5 environments. Generix lacks a warehouse control

system of its own for highly automated Level 5 warehouse operations, but does offer standard connectors to some automation systems. 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 47% of its customers now deployed on the dedicated cloud.

Strengths
- Generix's new private structure has released significant funds to further develop innovation, solutions (including its new resource management capabilities launching later in 2023) and operational efficiency.

- SOLOCHAIN is well-suited to combined 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.

- Generix supports some SCE convergence by offering several products complementary to WMSs, such as a transportation management system (TMS) and order management system (OMS) capabilities.

- 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.

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.

- While the technical architecture and back-office capabilities of SOLOCHAIN are differentiated, it lacks the depth and breadth of other WMSs' core and extended functionalities, including Generix WMS. This forces customers to balance architecture versus capability.

- The vendor offers two overlapping WMSs: One is stronger in Europe and deeper in functionality; the other is stronger in North America, has the more differentiated architecture and is likely the better platform of the two going forward. Generix has two additional platforms for other capabilities.

- Though Generix offers an API-first integration strategy to accelerate deployments, to date it lacks robust, in-built WES capabilities and has limited partnerships with automation vendors. This could impact project timelines for more complex Level 4 and 5 operations.

Infor

Infor is a Leader in this Magic Quadrant. Owned by Koch Industries, Infor is a business application megavendor with approximately $3.1 billion in global revenue. Infor's SCE software revenue in 2022 was approximately $230 million, with 6% growth 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. Infor's 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 the vendor has around 1,500 WMS customers, with about 150 of these now multitenant cloud. Infor did approximately 50 net new WMS deals in 2022, with 80% of new customers cloud, while China remains largely on-premises. Most of Infor's overall WMS customers are on legacy Infor WMSs. Sixty-two percent of its customers are international (30% in Asia/Pacific, 18% in Europe and the Middle East, and 14% in Latin America), with 38% coming from North America. Around 60% of its implementations involve system integrators (SIs) and partners (including three global organizations and 21 local partners). Its strongest markets are 3PL, retail/grocery, wholesale distribution, automotive and industrial. Infor prefers a subscription-based WMS pricing model but can support perpetual licensing.

Infor's WMS is most often used in Level 3 operations, but it is making inroads toward more complex Level 4 and 5 environments with a growing presence in Level 4. Infor also offers Factory Track, bundled with its various ERP systems, which provides simplified Level 1 and low Level 2 warehouse capabilities. Infor 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 leverages innovations developed for other areas to enhance the capabilities of its WMS. It benefits from capabilities such as Birst for analytics, Coleman for AI, ION for integration between Infor and external applications, and its Infor OS.

- Infor's extensibility approach, which includes Mongoose, is differentiated and helps address WMS customization even for midsize enterprises, which remains problematic in other multitenant WMS 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.

- Infor is one of the most distributed WMS vendors internationally, with deployments in 65 countries and almost two-thirds of its business outside its home base of North America. It is particularly strong in Asia, where approximately one-third of its customers are located.

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 still use legacy products and can't easily upgrade to take advantage of its current WMS's newer features and capabilities. Infor has tried to alleviate this problem by developing "migration factories," but moving to its newer WMS will require reimplementation, not an upgrade.

Körber

Körber is a Leader in this Magic Quadrant with its supply chain software business, which is part of the broader 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. In July 2022, Körber acquired enVista's Enspire Commerce platform (including enVista's order management system [OMS]) and its freight audit and payment (FAP) service, bringing 400 commerce and transportation specialists into Körber. Over the last five years, Körber has executed a "buy and build" strategy which has integrated 13 supply chain technology providers (nine in software and consulting, and four in automation) to service customers globally under the common Körber brand.

Fifty-two percent of the company's WMS customers are based in North America, with 35% in Europe, 6% in Latin America and the remainder across the rest of the world. It goes to market with four independent WMSs. We estimate Körber has more than 1,700 employees focused on WMSs, with 1,600 customers for its four WMSs.

Körber's four WMSs are: K.Motion Warehouse Edge, which is best suited to Level 2 and low Level 3 warehouse operations; K.Motion Warehouse Advantage, which primarily fits Levels 3 and 4, with some presence in Level 5 operations; K.Motion Enterprise 3PL, which primarily fits Level 3 and low Level 4 warehouse operations; and K.Motion WMS X, which 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 80% 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 has seen relatively strong customer growth compared with other Leaders in this Magic Quadrant. Its recent acquisition of enVista's distributed order management (DOM) system and other offerings strengthen its breadth of capabilities further, as it aims to catch up with other SCM vendors.

- 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.

- Körber has strong warehousing expertise and solutions that go beyond core WMS in areas such as voice, simulation and modeling (including an updated cloud-deployed version of its CLASS application), and material handling integration, having its own WCS. Its leadership position relative to intralogistics smart robotics is also growing. Körber is in the initial stages of aligning these capabilities with its new unified control system (UCS).

- 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 distinct WMS offerings while focusing on developing its next-generation WMS platform. While the former HighJump's WMS technical platform enables it to upgrade some common functionalities across three of the four WMSs, many features are built on different logic and will not fit this approach.

- High adaptability adds complexity, so customers must have strong internal technical resources and robust governance and version-control processes in place to manage and minimize customization. Some Körber customers have noted negative impacts on service and support during upgrades and large deployments.

- Körber's strategy is to incrementally move toward a microservices platform over the next three to four years, delivering via an upgrade process and not requiring customers to face full reimplementation to migrate. Consequently, customers could face multiple upgrades.

- 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, with no current plans to align with the manufacturing software division.

Made4net

Made4net is a Niche Player in this Magic Quadrant. It was founded in 2005 and is a vendor of WMS and related SCE solutions. In 2021, private equity firm Thompson Street Capital Partners completed a majority investment in Made4net. In June 2022, Made4net acquired U.S.-based WMS vendor Zethcon, including its midmarket 3PL and cold-chain-focused Synapse WMS. Made4net's SCExpert Suite includes WMS, transportation, delivery management, yard and labor management, all running on a single common technical platform.

Following the Zethcon acquisitions, it has 154 employees focused on warehouse management and over 800 customers globally (111 of whom are Synapse WMS customers). It has some of the broadest geographical coverage of any of the independent WMS providers. All of Synapse WMS's customers are located in North America, but of Made4net WarehouseExpert customers, 31% are in North America, 31% in Europe, 14% in Asia, 11% in Latin America and 13% in other regions. Made4net has partners and customers in approximately 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 was most often used, and the majority of its customers were, in Level 2 and 3 environments (currently 66%), but it is increasing penetration into Level 4 environments (22%) and has customers in Level 5 and Level 1 environments. Made4net supports all deployment methods, but about half of its installed base remains on-premises and the vast majority of its cloud deployments are dedicated cloud.

Strengths

- For its size, Made4net has a compelling international go-to-market strategy and sales track record with consistent growth. More than 60% of its combined business is outside of its home geography. It has customers in approximately 40 countries across 12 industries, delivers its applications in 20 different languages, and supports personalization translation features. Its recent Zethcon acquisition brings greater penetration into, and capabilities for, the 3PL market.

- For its size, Made4net has a strong global partner network which complements its own sales and implementation resources located in five offices around the world.

- Made4net has some SCE convergence, with six product categories (WMS, yard management, labor management and three transportation solutions) on a common technical platform, and is 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 has grown postacquisition, Made4net has a small number of WMS-focused employees serving a large number of customers compared with other vendors, now spread across two WMSs, which could stretch resources.

- While Made4net has capabilities that can support larger, more complex and (often) automated facilities, its experience is greatest in the SMB sector, and it has limited resources compared with larger WMS providers. Larger customers with more complex warehouse operations must therefore be diligent in evaluating its implementation tools, 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.

- While Made4net has a strong global partner ecosystem, customers with multisite rollouts that span geographical territories must be prepared to potentially manage multiple sales or implementation partners.

Manhattan Associates

Manhattan Associates is a Leader in this Magic Quadrant. It is the second largest supply chain suite provider in this evaluation, with 2022 company revenue of approximately $767 million. It has approximately 4,150 employees globally, with a presence in most regions. Gartner estimates

Manhattan Associates to have a total of 1,685 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 solutions covering logistics, omnichannel commerce, supply chain planning and supplier enablement solutions. Its core applications comprise WMS, TMS, DOM and 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 cloud-native microservices multitenant cloud WMS, which replaces Manhattan Warehouse Management for Open Systems (WMOS). As of YE22, the company disclosed it had 83 Manhattan Active Warehouse Management customers.

Manhattan's WMSs target different markets. Manhattan SCALE, based on a Microsoft technical platform, caters to the SMB and 3PL WMS markets with Level 2 and 3 warehouse environments. Manhattan WMi continues to support customers that prefer the IBM i platform, and is most often used in Level 3 and 4 warehouse operations. Manhattan Active WM caters to sophisticated, complex and often highly automated warehouse environments and is most often used in Level 4 and 5 warehouse operations, but it can scale from Levels 2 through 5. Manhattan Active WM offers a fully integrated WMS and WES, supporting high-volume and high-velocity automated operations.

Manhattan's strongest industries are retail, e-commerce, grocery, footwear/apparel, 3PL and wholesale distribution. It has customers in a variety of industries.

Strengths
- Manhattan remains committed to building its offerings and growing its business organically, with its last acquisition in 2014, contrasting with most other WMS vendors that have grown through acquisition. This focus is what allowed it to be the first of the SCM vendors to build a unified platform.

- Manhattan 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 that can effectively translate business requirements into deliverable products of good quality and reliability.

- Manhattan 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 that acquire two or more of its applications.

- Manhattan is differentiated in both the depth and breadth of its core SCE products — notably WMS, WES, omnichannel, labor management and transportation management — and is the only SCM suite vendor that has these capabilities on a unified microservices platform.

- Manhattan's offering has a reputation for being expensive, high-end and complex, and it requires more effort to support than other systems. While Manhattan Active WM is versionless, mitigating upgrade costs, the TCO is often high due to the subscription model and implementation costs.

- Manhattan is less consulting- and SI-partner-friendly than other WMS Leaders, which can constrain choice and resources. Clients rely on Manhattan consultants for many aspects, such as customization and report creation. But the increased focus on usability for its Manhattan ProActive tool may reduce some clients' dependency on Manhattan's integration services team going forward.

- 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.

- Manhattan 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 is a Niche Player in this Magic Quadrant. It is a WMS suite provider headquartered in Greece with offices across EMEA and North America. In early 2022, it was acquired by Germany-based logistics software and hardware provider ecovium. Mantis has been in operation since 1996 and has 119 employees focused on WMS. Partially due to the acquisition, Mantis met the inclusion criteria for revenue for the first time, but it also exceeded the three-year CAGR criterion for customer or revenue due to sustained and rapid growth. While this research focuses primarily on Mantis and its WMS, consideration was given to the ecovium ecosystem and the acquisition's impact on the vendor's longer-term prospects.

Most of Mantis's 711 WMS customers are in EMEA (with a strong presence in Central and Eastern Europe, Turkey, Israel and the Middle East). It also has a limited but growing presence in North America following its 2018 acquisition of Insight Technologies and is starting to grow in the DACH region, where the majority of the 270 legacy ecovium WMS customers are located. Its top three customer industries are 3PL, distribution and wholesale, and multichannel retail, with customers spread across 14 vertical industries, including a 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 Level 3 and 4 warehouse environments, but it scales from Level 2 to some Level 5 operations. Mantis's customer base is primarily deployed on-premises, but it now has a small number of customers in dedicated public cloud environments on Microsoft Azure. It offers both perpetual license and subscription pricing.

Strengths

- Mantis has a strong local presence, partner network and growing customer base in EMEA, especially in territories where many other WMS vendors are not present. Its merger with ecovium is strengthening its R&D capabilities located in Greece (with additional R&D resources in Germany). Mantis is slowly gaining new and replacement WMS customers in the DACH region, mitigating the impacts of geopolitical disruptions in some of Mantis' 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, with which it can also offer "slotting as a service." It has a roadmap to improve support for business intelligence, smartglasses, usability and its architecture.

- Mantis now offers automation (hardware) as a service alongside its new cloud hosting on Microsoft Azure and scalable seasonal subscription offering, which is well-suited to its target midmarket customers.

Cautions

- Mantis is offering dedicated cloud deployments later than the market, with only 3% of customers recently hosted in a dedicated cloud environment and an ambitious vision to move next year to a configurable multitenant architecture.

- While the acquisition by ecovium has improved overall viability and the Mantis management team has been 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 highly automated warehouse environments should carefully map their requirements to see if LVS provides the necessary support for all scenarios. They should consider alternatives and WCS vendor capabilities alongside those of Mantis' native configuration and integration tools.

Mecalux

Mecalux Software Solutions is a Niche Player in this Magic Quadrant. It is headquartered in Spain and has total WMS revenue of over $26 million. Mecalux also has high WMS customer growth with a three-year CAGR of 22%. It has approximately 1,000 live WMS customers and 370 employees focused on WMS. Its parent company, Mecalux Group, sells and operates mainly in Europe and the Americas, with more than 20 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 on design, to the supply of warehouse control and WMS. Mecalux has total company revenue of more than $1.58 billion and over 4,800 employees across its businesses. More than 84% of its WMS customers are based in Europe (with 74% of all its customers based in Spain, France and Poland), a significant number in Latin America (10%) and a small but growing presence in North America (4%). Mecalux has direct implementation resources in Europe and the Americas, with implementation partners supporting less than 20% of its less-complex projects.

Mecalux's Easy WMS product has been developed over the last 23 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 has been most often used in Level 2 and 3 operations, but it scales to Level 5 supported by its own WCS. Twenty-seven percent of the vendor's implemented customers are on cloud, with almost three-quarters of these on dedicated cloud and 70% of new manual customers on cloud. Standard and small implementations use multitenant solutions, and larger, more complex customers use dedicated, single-instance deployments. Mecalux uses Microsoft Azure for cloud deployments.

Strengths
- Mecalux targets the needs of SMBs, with approximately 1,000 live midmarket customers in 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 to some manufacturing execution systems.

- Mecalux has a strong geographic presence in Iberia and France, with a growing presence in Latin America, while also 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.

- Mecalux has recently simplified customer choice by reducing its five previous WMS offerings to three: Lite, primarily used for training and educational purposes; Enterprise for manual environments; and Robotics to support current and potential customers that require automation.

- Mecalux has, to date, provided a relatively low TCO (software plus service) compared with other vendors in this research, with the opportunity to make the offering easier to adapt for different levels of complexity.

Cautions
- While a good fit for the midmarket, Mecalux has less experience in complex, larger multisite enterprises with highly complex, people-driven warehouse environments. It is beginning to target higher-complexity environments, which may impact TCO going forward.

- 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.

- While Mecalux has customers and resources in all regions, more than 84% of its customers are based in Europe (almost 70% in Iberia and France). Its next largest region — Latin America — accounts for 10% of current customers; only 4% are in North America and the remainder are located in other regions.

- Mecalux has lower cloud penetration (and less maturity) than other evaluated vendors at 27%, but 70% of new manual customers are deployed on the cloud.

Microsoft

Microsoft is a Challenger and new entrant in this Magic Quadrant. It is a roughly $198 billion global application and infrastructure megavendor, and Gartner estimates more than $2.25 billion revenue comes from its Dynamics 365 applications. It offers Microsoft Dynamics 365 Finance and Supply Chain Management (which includes its WMS capabilities) as an integrated cloud ERP solution. Dynamics 365 Supply Chain Management, not Business Central, is assessed in this research.

Until recently, Dynamics 365 WMS has not been routinely sold separately from the vendor's ERP solution, but use of it as a stand-alone WMS is now a more viable option, although stand-alone WMS deployments remain minimal. Microsoft has long had basic warehouse management capabilities, but over the last few years it has developed more advanced WMS capabilities through a couple of cycles of acquisitions and, more recently, through organic development. The vendor has a large number of global partners that sell and implement Dynamics 365, with only a small amount of implementations conducted by Microsoft directly. Its customers are well-spread geographically, with 35% in North America, 50% in EMEA, and 15% in Asia. The majority of its customers are midsize enterprises, but it is deployed at some larger enterprises.

We estimate Microsoft Dynamics 365 to have more than 850 warehouse management customers and a much larger number of warehouse sites. The vendor claims the majority of its customers use its WMS to support Level 3 complexity warehouse operations. It is a dedicated cloud WMS, deployed on and benefiting from Microsoft's Azure infrastructure and sold on a subscription basis as part of the larger Microsoft Supply Chain Platform offering.

Strengths
- Microsoft Dynamics 365 Supply Chain Management (WMS) is a suitable shortlist candidate for many Microsoft customers because it offers sufficient functionality and ease of use.

- Pricing can be attractive (mostly based on number and role of users), with the ability to easily scale users, especially for organizations already in the Microsoft Dynamics 365 ecosystem.

- Customers can benefit from platform integration with Microsoft's broader technology ecosystem, such as Microsoft Azure to support its cloud deployments, Microsoft analytics capabilities, Power Platform, emerging capabilities in AI, and sustainability tools. The vendor also has a mature cloud architecture and extensibility framework.

- Microsoft has one of the largest ecosystems of global, regional and local partners that can deploy and, where necessary, enhance the solution via extensibility and the vendor's low-code developmental capabilities.

Cautions

- The WMS is not currently offered independently to customers (currently as part of the Dynamics 365 Supply Chain Management ERP product) and is most suitable for organizations already committed to Microsoft Dynamics 365 offerings. Although the vendor has a vision to make this more accessible in the future.

- It is not suitable for the most complex environments because it lacks extended functionalities such as multitenant and multidivision inventory per site and 3PL billing. Organizations attempting to implement it in more complex environments see no differentiation in speed to deploy.

- While Microsoft has a large number of extension touchpoints throughout the application, robust governance around version control, modification support and extension change control is required.

- Users should vet their chosen partners' warehousing and fulfillment capabilities and experience due to Microsoft's very large number and diverse range of sales and implementation partners.

Oracle

Oracle is a Leader in this Magic Quadrant. It is a global application and infrastructure megavendor with over $41.5 billion in total revenue, of which software revenue was $34.8 billion. Oracle has the second largest market share in the SCE software market that includes WMS software, with SCE software revenue of $600 million in 2022. Oracle offers multiple WMS products, but this research focuses exclusively on Oracle Fusion Cloud Warehouse Management (i.e., Oracle Warehouse Management) as this 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 Merchandising 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 31% of last year's new bookings). 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 38% in North America, 33% in Latin America, 20% in EMEA, and 9% in Asia/Pacific. We estimate Oracle to now have 556 Oracle Warehouse Management customers, having added 86 new customers in 2022, with customers headquartered in 45 countries.

Oracle claims its Warehouse Management customers are spread well across Levels 2 through 5 warehouse operations, with the largest amount present in Level 3 and approximately 20% of customers having a facility with some automated MHE.

Strengths

- Oracle has one of the most coherent SCM cloud strategies and the most mature cloud WMS offering of vendors in this research. It has made notable accomplishments with cloud, such as zero downtime, given its maturity and use of Oracle Cloud Infrastructure Autonomous Database, and has enhanced tools such as its WMS Support health analyzer.

- Oracle has a differentiated user experience (UX), advancing its next-generation UX called Redwood further into the WMS, 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 has a presence in 17 industries supported by a variety of inventory attributes. It continues to be strong in fulfillment-intensive industries, notably retail and consumer goods, which represents 35% of its customers. However, it continues to expand its industry reach into multiple verticals such as industrial manufacturing.

Cautions

- Oracle is not as functionally broad or deep as other Leaders in this Magic Quadrant, especially for extended WMS areas such as labor management, multicarrier parcel management or work optimization.

- Oracle is not functionally catching up with other Leaders, focusing more on building APIs (over 400) and letting customers build advanced capabilities.

- Eighty percent of Oracle's WMS implementations are performed by SI partners. While most have strong technical competencies, customers should vet their depth and breadth of warehouse expertise (such as design, layout, process best practices and automation integration).

- While Oracle's WMS can be, and is, integrated with non-Oracle applications (ERP systems), Oracle relies on SI partners to build these integrations. Oracle partners can certify their prebuilt integrations on Oracle Cloud Marketplace.

Reply

Reply is a Visionary in this Magic Quadrant. It provides an array of IT services, with a primary focus on consulting, SI, digital services and cybersecurity. Reply has total company revenue of more than $1.5 billion. It also offers warehouse management applications and services, with 25% of its $35 million WMS revenue coming from WMS software, 56% from services and the remainder

from maintenance and support. About 315 employees support its two WMSs: Logistics Execution Architecture (LEA Reply), a multitenant cloud WMS developed in a contemporary microservices architecture; and Click Reply, its legacy WMS.

Reply has 143 LEA Reply customers and 146 for Click Reply, and it expects LEA to surpass Click customers this year. Reply's WMSs are deployed in 30 countries, with 77% of WMS customers in Europe, 9% in North America, 9% in Latin America, 3% in Asia, and 2% in other regions. Its WMS customers span industries: LEA Reply is strong in retail, e-commerce, food and beverage, and fashion and luxury; Click Reply is strong in automotive, industrial, service, high tech and 3PL.

LEA Reply generally caters to a range of warehouse-centric network environments and is most often used in Level 2 and 3 warehouse operations. However, it can scale up to low Level 4 operations and has a growing presence in Level 5 warehouses (12%). LEA Reply is the vendor's multitenant cloud offering built on its contemporary microservices architecture. Click Reply is best suited to multisite, complex Level 3 and 4 warehouse operations, often using material handling automation, and can scale to Level 5 operations (25%). Reply can host its on-premises Click Reply WMS as a dedicated cloud solution.

Strengths
- Reply's WMS business is part of a large, global organization, with strong consulting and SI capabilities from over 13,000 employees based in 19 countries and 63 locations. As such, Reply's solution delivery and customization 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. Reply 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.

- Reply remains an innovator that prototypes, commercializes and delivers new capabilities such as microservices, wearables (e.g., smartglasses and augmented reality), real-time locating, MHE automation, microfulfillment center support, drop shipping and store logistics. It has a roadmap to develop its applications further to deploy its platform as an asset.

- 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.

Cautions
- Reply remains primarily focused in Europe (mostly Italy and the U.K.) for WMS, with 77% of its customers and roughly 70% of its employees in Europe. Reply is directly involved in all projects and customers are fully dependent on Reply for technical services.

- Packaged WMS is not Reply's core business, representing only about 3% of its revenue; its primary business is consulting and SI 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 is still working on delivering a comprehensive SCE convergence strategy beyond warehouse management.

SAP

SAP is a Leader in this Magic Quadrant. It is a global software megavendor with approximately $33 billion in total revenue ($25.2 billion in software revenue). SAP has more than 30 years of experience in warehousing. Gartner estimates SAP's SCE software revenue to have grown at 2.4% in U.S. dollars through 2022. While this growth rate was slower than that of the overall SCE software market, we estimate the growth rate in Euros was a healthy 15%. 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. Gartner estimates 55% of its customers to be in EMEA, with 25% in North America, 12% in Asia and 8% in Latin America. SAP has more than 2,300 EWM customers (more than half now deployed on S/4HANA EWM) and has diversified vertical industry coverage with customers in 17 industries. It has notable strengths in retail (including e-commerce, grocery and food service), automotive and industrial/construction machinery, and consumer goods (its strongest industry). Gartner estimates approximately 650, 325 and 700 customers in each of those industries respectively.

SAP EWM is most often used in Level 2 and 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 (we estimate 84%), with an estimated 13% on dedicated cloud (hosted), and we estimate only 3% on its newer multitenant, public offering. More than half of SAP's dedicated cloud customers deploy on a stand-alone rather than embedded 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, with more than 7,000 between its legacy ERP WM and EWM. EWM has one of the largest customer bases on a single WMS application, aiding its continued development. 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 when deploying a decentralized version of EWM.

- SAP has a compelling platform strategy for addressing SCE convergence. EWM offers strong integration with ECC and S/4HANA, as well as other components such as: transportation management; global trade compliance; quality; environmental, health and safety; and newer manufacturing integration capabilities. It has also recently launched support for warehouse robotics.

- SAP has a large global ecosystem of implementation and consulting partners. This includes four global SIs 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 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 that of comparable WMSs. Its pricing structure based on transactions and users is complex and 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 with many of its competitors. It has numerous deployment options and, while cloud deployments are growing, we estimate only 16% of SAP's EWM customers to be cloud-deployed across various hyperscalers and SAP, with our estimate of only 3% on its newer multitenant option.

Softeon

Softeon is a Visionary in this Magic Quadrant. Softeon is a small, SCE solution vendor in business for 24 years with total revenue of $45 million, 89% of which is WMS revenue. In 2022, Warburg Pincus acquired the majority share of Softeon; and in March 2023, Softeon finalized its acquisition of GetUsROI and its AttunedLabs software development arm. The latest acquisition adds new capabilities through its LUCA platform, which provides low-code/no-code integration with a variety of material handling systems. Softeon is based in North America, which accounts for the majority of its customers and revenue (83%), plus about 7% in Europe, 5% in Latin America, and 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 (165 customers) is modest compared with the majority of other vendors in this research. Some of these customers have very large and complex multisite WMS implementations (Levels 4 and 5), while others, including some of its cloud users, are quite small and less complex (Level 2) operations. The vendor is particularly strong in 3PL (about 30% of its customers) and is growing in other industries such as retail, consumer goods, apparel and consumer electronics. More recently, it has added capabilities and focus in healthcare logistics.

Softeon is most often used in Level 3 and 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 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). All new clients deploy on the cloud with a subscription model.

Strengths
- Softeon 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 the vendor and its partners, and its structured solution delivery methodology.

- Softeon is increasing its focus on healthcare logistics by adding new capabilities to its offerings, targeting its go-to-market strategies and enhancing its relationship with some key customers in this area.

- Softeon offers some differentiated capabilities that include embedded and independently offered WES capabilities and 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. These capabilities are enhanced by its newly acquired LUCA solution.

- In addition to strong core and extended WMS capabilities, Softeon offers a broad suite of SCE capabilities on a common platform. The platform includes WMS, WES, DOM, returns management, supply chain planning and direct store delivery.

Cautions
- Softeon remains largely an Americas-centric organization, with the vast majority of its revenue and customers in North America, and some global rollouts for its large global customers.

- Clients have historically praised Softeon's customer centricity, and Softeon's people were one of the key reasons customers selected this vendor. However, with changes in ownership and loss of some key people, this characteristic must be watched.

- While Softeon is beginning to use consulting partners, they remain a very small percentage of its business. Moving toward partners could impact its client intimacy.

- The dynamics of Softeon's longer-term viability as an independent company changed with Warburg Pincus taking majority ownership. Private equity firms tend to hold assets for around three to five years, which makes a financial transaction likely in that time frame.

SSI SCHAEFER

SSI SCHAEFER IT Solutions is a Challenger in this Magic Quadrant. 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 85-year pedigree in manufacturing and warehousing materials, equipment and material handling automation.

SSI SCHAEFER provides its own WMS, called WAMAS, which can be offered independently of material handling systems and to purely manual warehouse operations. Its 418 WMS customers are global, with 77% 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 735 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 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 SI 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 into a combined team of 120. In March 2023, it completed its full acquisition of DS Automotion, aiding its material handling integration capabilities.

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 remain on-premises with a perpetual license model. WAMAS in the cloud (designed for use in manual warehouses or those with only light automation) has completed internal testing and development, but is not yet live with any customers.

Strengths
- SSI SCHAEFER has a strong European presence and is supported by the strong global presence of its parent group and local SSI SCHAEFER offices, with WMS customers in 47 countries. It also has a large workforce focused on WMS, with over 100 of its 735 WMS- and WCS-focused employees dedicated to manual and multisite warehouse operations.

- SSI SCHAEFER is part of a growing acquisitive group, reflected by its March 2023 full acquisition of DS Automotion. The vendor offers a variety of deployment models and can deploy and integrate its WMS/WCS and MHE solutions as a package (including to all acquired organizations) or independently coordinated with other vendors' solutions.

- Despite the group's size, innovation continues, including a new configuration management tool in 2022, recent progress improving data migration and security, partnering for automated testing tools, and a longer-term roadmap for improving usability, sustainability and modernizing its architecture.

- The vendor is a stable, family-owned organization, supported by a group with over 85 years of experience in warehouse management and extensive support for warehousing materials, MHE automation and industrial environments.

Cautions

- SSI SCHAEFER's cloud deployment capability lags that of all other vendors in this research, with all of its customers currently deployed on-premises. While it has completed internal testing of a cloud option for simpler environments, it's not yet live.

- New customer growth and presence in manual environments has slowed, with the vendor undergoing an additional restructure to provide further support for highly automated environments and region-specific capabilities. It also lacks a partner implementation ecosystem, limiting customer choice.

- The vendor is rolling out a new licensing model in 2023. While the intent is to increase transparency, this may add complexity and, in some cases, may increase customer costs.

- 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.

Synergy Logistics

Synergy Logistics is a Niche Player in this Magic Quadrant. It is a small software company focused exclusively on WMS and directly related products, such as mobile robots, with WMS revenue of $31 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 approximately 260 WMS customers. Revenue and customers are nearly equally divided, with 53% of its customers based in Europe, 46% in North America and a small but growing number in other regions. It has more than 100 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. Synergy's top three industries — representing 63% of its business — are e-commerce (40%), 3PL (12%) and wholesale distribution (11%), but it is growing in consumer products (10%) and other industries.

Synergy's WMS, SnapFulfil, is most often used in Level 2 and 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 2022, Synergy introduced SnapControl, which provides work prioritization and allocation capabilities to better orchestrate tasks among humans, devices and robots, and can be deployed independently of its WMS. This solution is aimed at expanding the Synergy product portfolio with WES capabilities. Synergy has also further expanded its technology partners ecosystem.

- 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. Additionally, for certain customers, it offers a no-capital-expenditure, turnkey-managed service deployment model.

- Synergy has expanded its video training and remote implementation capabilities with a solution called SnapBuddy. 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.

Cautions

- Synergy resumed its partnership efforts in 2022, but still lacks a formal ecosystem of implementation partners, focusing more on exposing use of its configuration tools to customers. Customers are dependent on the vendor for consulting services, and these resources could be taxed if it maintains its growth rate, given its small number of employees.

- Synergy is strongest in the SMB sector, with nearly 80% of its customers in this space. While it is looking to move upmarket, its deployment strategy could be a constraint. Although its self-implementation tools and rapid deployment strategy can mitigate risks in simple WMS environments, this can stretch resources as large, more complex projects require dedicated resources for multisite deployments.

- 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 has solid core WMS capabilities, but it lacks the breadth of WMS Leaders. Synergy 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 is a Challenger in this Magic Quadrant. It is a vendor of warehouse management and companion SCE capabilities, with approximately $105 million in software and services revenue and a CAGR for revenue of 31%. The majority of its revenue is related to WMS, where it has grown its deal size by 25% in the last year and the company has 40 years of experience in warehousing and services.

Tecsys has 214 WMS clients, with 87% of these in North America. About 25% of its customers are in Canada and 62% in the U.S. Tecsys 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 67% of its pipeline in these industries. It also has a mix of SMB and large customers, with 50% categorized as midsize to large organizations.

Tecsys 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 recently launched a new WMS called Omni WMS, focused on low-complexity omnichannel environments. The majority of its deployments are direct but almost one-third are now supported by its growing partner network. Historically, the majority of Tecsys's deployments have been on-premises, purchased as software licenses. For new deals, cloud/SaaS is now the preferred deployment option with cloud penetration now at 90%, but 100% of its cloud deployments are dedicated, single-instance cloud.

Strengths

- Tecsys is differentiated in healthcare, where it offers specialized capabilities, compliance (such as for new Drug Supply Chain Security Act [DSCSA] guidelines), domain expertise, customer experience and healthcare-focused partnerships, such as with Workday. It offers capabilities such as integrating WMS upstream into hospitals for automatic replenishment and support for hospital pharmacies and perioperative areas. Tecsys is also formidable in industrial equipment and service parts, and offers specialized capabilities for controlled substances and nontraditional units of measure.

- 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.

- Tecsys 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 offers extensibility with its Itopia platform aimed at providing low-code development and API-based integration to support unique custom requirements.

- Tecsys is beginning to enhance its robotics integration strategy by partnering with SVT Robotics, a multiagent orchestration vendor.

Cautions

- Tecsys has one of the smallest global footprints of vendors in this research, with 87% of revenue coming from the vendor's home region of North America, and only 11% from Europe and 2% from Latin America. Despite significant revenue growth, its net new customer growth is low.

- 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. Tecsys is recruiting and has developed a formal alliances program, adding specialist partners to mitigate this difficulty.

- Although Tecsys' solution provides notable flexibility and adaptability with features like its powerful rule engine, this flexibility adds complexity, requiring customers to ensure they have the capacity to staff and train their internal resources effectively to support this.

- Tecsys' SCE convergence vision and strategy are appealing in healthcare, but its convergence capabilities in other areas, such as production or multimodal transportation, trail leading providers.

Vinculum

Vinculum is a Niche Player in this Magic Quadrant. Headquartered in India, with additional locations in the Middle East and the U.S., Vinculum is a provider of a suite of cloud/SaaS-based solutions aimed mainly at e-commerce and omnichannel retail, darkstore/backstore fulfillment and retail-focused 3PLs. B2C and e-commerce order fulfillment play a major part in the WMS. Vinculum also has a modest presence in B2B and nonretail 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, omnichannel sales order management, returns, payment reconciliations, merchandising, omnichannel loyalty, and real-time view of inventory in stores and warehouses.

Vinculum did not meet the qualification requirements for WMS revenue, but it exceeded the criterion for customer growth with a three-year CAGR of 40%. Vinculum claims about 1,500 total customers across its suite, with 685 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 help India's SMBs digitize their business operations. Vinculum's WMS is best suited to paper- or mobile-based manual Level 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 95% of its customers are multitenant cloud, with the remainder dedicated cloud.

Strengths
- Vinculum has strong operations and significant customer growth in the emerging markets of India and Southeast Asia, with a strong integration framework, where it leverages APIs to connect to more than 80 marketplaces, over 200 web stores and 3PLs.

- Vinculum's 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 is specifically focused on and well-positioned in multichannel e-commerce order management and fulfillment across a variety of product categories. 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.

- Vinculum has introduced several product and business capabilities over the last two years, primarily focused on enabling dark store fulfillment models, enhancements in D2C, B2B and prebuilt integrations, as well as improving security and performance.

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 vendors included in this Magic Quadrant. Although its customer numbers continue to grow, most of these have been at lower cost within its primary markets.

- Vinculum's WMS is best suited to manual Level 1 and 2 and basic Level 3 warehouse operations. It offers less functionally rich core and fewer extended capabilities than other vendors, but continues to enhance its features.

- 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

Microsoft was added as a vendor to this year's Magic Quadrant due to meeting our megavendor inclusion criteria and growing interest from Gartner's clients in the offering.

Dropped

No vendors were dropped from this year's Magic Quadrant.

Inclusion and Exclusion Criteria

The 2023 Magic Quadrant for Warehouse Management Systems focuses on holistic WMS suites and global offerings. To be included in this research, 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 and customers 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 that it offers.

Furthermore, a vendor can qualify if it has a demonstrably differentiated and unique focus and market position in a specific vertical industry.

In full, 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 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:* 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:* At least 150 live individual customer references holistically using the version of the WMS solution being evaluated.

  - *And:* Sold at least 10 net new customers in the previous 12 months.

  - *And:* 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:* Direct or affiliate sales and implementation resources in three or more geographical regions.

  - *And:* 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 megavendor 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 150 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 150 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 WCSs (see Warehousing and Fulfillment Vendor Guide). We do not evaluate specialized vendors that offer 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').

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 its Ability to Execute. Therefore, this factor has been given a high weighting. 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/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 and services, 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 and Gartner client interactions. 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 its ability to harmonize its vision, strategy, tactics and actions. Therefore, we give operations a high weighting.

Table 1: Ability to Execute Evaluation Criteria

Evaluation Criteria ↓	Weighting ↓
Product or Service	High
Overall Viability	High

Evaluation Criteria ↓	Weighting ↓
Sales Execution/Pricing	High
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	High

Source: Gartner (May 2023)

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 newer 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 and robotics 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 has historically been dominated by specialist vendors focused on warehousing and logistics. Today, marketing and sales strategy are becoming more important, particularly as megavendors 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, R&D 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 its 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. These include 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 AI.

- **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, continued 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 low 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 but invest 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 they plan to address the varying needs of WMS users around the world. Geographic strategy is increasingly important for maintaining a strong presence throughout the global market. 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

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

Source: Gartner (May 2023)

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 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 their offerings or go-to-market strategies when compared with Leaders. These solutions are preferred by buyers that favor Ability to Execute over Completeness of Vision. Challengers can have practical visions for their solutions and, more generally, SCE. But their 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 dimension that tends 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, their solutions are not as broad as those 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, almost on par with the importance of functionality. As basic core WMS has approached parity in the market, 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 80% of new customers preferring cloud if the economics are reasonable. But with a large existing installed base for on-premises WMS, a little over 30% of completed deployments are cloud, with around 11% 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, inflation 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 intralogistics smart robotics 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 both now and in the future.

Technical architecture, integration capabilities 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 is one new entrant (Microsoft) to this year's Magic Quadrant, due to the vendor now meeting the inclusion criteria, improved capabilities and growing Gartner client interest in its Microsoft Dynamics 365 Supply Chain Management WMS offering. No vendors were dropped from last year's Magic Quadrant, despite a challenging market for some. There has also been movement within quadrants despite the maturity of the market. Additionally, the trend of acquisitions, investments and restructures within the WMS market seen in the previous year continued in 2022 and into the early part of 2023, bringing opportunities and risks for vendors and their clients and prospects. This impacted Blue Yonder, EPG, Generix, Körber, Made4net, Mantis, Softeon and SSI SCHAEFER.

Vendor and product evaluations for this Magic Quadrant have become tougher (in areas such as customer numbers) and harder to achieve for some vendors impacted by continuing disruption and significant geopolitical impacts on customers and resources. Some have experienced slowed growth, others have benefited from urgent focus on areas such as e-commerce. Both vendors and Gartner end-user clients have reported continued constraints on WMS implementation resources, driving organizations to look for other forms of support and 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, composability and support for automation and robotics, given the continued impact of the disruptive events of the last few 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 by considering over 80 WMS providers, but only the 18 vendors featured provided the evidence that they met the documented inclusion criteria. The WMS market is a long-tail market with seven vendors dominating 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 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. Their 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.

Megavendor WMSs (i.e., Infor, Microsoft, Oracle and SAP) continue to evolve, adding depth to their core WMS capabilities as well as some extended WMS capabilities with some improving facets such as usability. 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 megavendor 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 megavendors 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, depth and breadth of functionality, 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 developing 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. Both Softeon and Reply have enhanced their capabilities supporting automation and robotics.

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, R&D investment, 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 and robotics support capabilities. Made4net, following its acquisition of Zethcon, exceeds qualification criteria for the second time on overall revenue, while retaining respectable although slightly slowed CAGR for revenue and customers. Mantis is notable for its flexible self-serve capabilities, and is now exploiting its 2022 acquisition by ecovium, with net new WMS customers and a few ecovium replacements in territories it had no presence in previously. Generix Group is notable for its model-driven architecture, which enables more user adaptability of the WMS during and after implementation. It restructured in 2022, moving to full private ownership and is no longer listed on the Paris Stock Exchange.

Vendors that make it into the **Challengers** quadrant are typically mature, functionally solid and proven, with strong track records of customer adoption and successful deployments but lack the characteristics of Visionaries. 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. EPG and Tecsys (new entrants to this quadrant in 2022) remain in the Challengers quadrant this year, as does SSI SCHAEFER IT Solutions. These vendors are now joined in this quadrant by Microsoft, a new entrant to the WMS Magic Quadrant in 2023 supported by its Microsoft Dynamics 365 Supply Chain Management (WMS). 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 improved its position in this quadrant. Tecsys' continued revenue growth and adaptability have solidified its position in the Challengers quadrant. Tecsys is also notable for its healthcare capabilities and collaborative partnerships in this industry. Microsoft's entry and position are driven largely by its gathering customer momentum in more complex environments following its purchase and additional development of greater WMS functional capabilities. It also now meets the megavendor inclusion criteria. Gartner has also observed greater demand for the Microsoft Dynamics 365 Supply Chain Management WMS solution globally, as well as a vision to move toward independent deployments.

Vendors continue to innovate with continuing focus on enhancing their technical architectures. Some like Reply and Manhattan Associates already have rewritten their WMS using a microservices architecture that allows continuous upgrades and extensibility in a multitenant cloud environment, giving greater potential for composability. Others are on a longer path toward that goal. The majority of vendors are responding to the market and providing further support for automation and robotics, such as Körber with its development toward a unified control system (UCS) and commercial proposition to support robotics as a service (RaaS), and Synergy's newly developed robotics support platform.

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, 50- to 60-minute demonstration of its core WMS, basic configuration, implementation accelerators and extensibility tools per offering.

- **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 1,500 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.

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