Magic Quadrant for Warehouse Management Systems

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VIEW SUMMARY

While WMS applications are approaching functional parity, vendor innovation continues making these solutions more usable, adaptive, smarter and better able to orchestrate end-to-end logistics processes.

Market Definition/Description

Gartner defines a warehouse management system (WMS) as "a software application that helps manage the operations of a warehouse or distribution center (DC)." WMS applications offer capabilities such as receiving, put-away, stock locating, inventory management, cycle counting, task interleaving, wave planning, order allocation, order picking, replenishment, packing, shipping, labor management and automated materials-handling equipment interfaces. These systems incorporate radio frequency (RF) handheld devices in conjunction with bar codes and possibly RFID to form the foundation of a WMS. This enables efficiencies of directed work activity and the delivery of accurate information in near real time. Gartner includes integrated functionality — such as voice picking, parcel manifesting, value-added services, light manufacturing/kitting and third-party logistics (3PL) billing — as components of a WMS evaluation. This is because many buyers now demand that these components be included in a large number of WMS engagements.

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

Application megasuite vendors: These vendors offer broad portfolios of applications across most application categories (for example, back-office financials, supply chain management [SCM], logistics, CRM and product life cycle management [PLM]). Infor, Oracle and SAP are considered megasuite vendors with WMS offerings.

SCM suite vendors: These vendors offer a portfolio of applications focused primarily on SCM, including aspects of logistics, but not other functional areas such as financials or human capital management. While these vendors might offer a variety of SCM solutions, they do not necessarily offer an integrated platform (although some do). Vendors in this category include HighJump, JDA Software and Manhattan Associates.

Specialist WMS vendors: These vendors are independent software vendors (ISVs) that focus primarily or exclusively on holistic WMS, although they might offer some additional capabilities. Vendors in this category include LogFire, Softcent, Tecsus, Made4net, Reply and Synergy Logistics.

Independent WMS component vendors: Not covered in this Magic Quadrant, these vendors are specialized ISVs that focus exclusively on offering ISV components that can be used to supplement a WMS — for example, workforce/labor management, slotting optimization, yard management or dock/appointment scheduling.

Materials-handling automation vendors: Not covered in this Magic Quadrant, these vendors primarily focus on providing large-scale automated warehouses, but many of these vendors also offer a WMS as part of their portfolios of products. Examples of vendors in this space are Swisslog, Dematic, Intelligrated and others. We do not cover materials handling and engineering firms — regardless of whether they offer a packaged WMS application — because these firms do not typically offer their WMSs to the market independent of their materials-handling solutions.

Gartner's Viewpoint of the WMS Market Continues to Evolve and Has Changed During the Past Year

All solutions in the WMS Magic Quadrant support basic core WMS capabilities (see "Apply an Architectural Framework to Stratifying Warehouse Management Systems"), and many also support various levels of extended WMS. Beyond functionality, there are additional considerations that influence the positioning of WMS providers. This has contributed to the repositioning of some WMS providers from previous years (see "The Dominant Themes of WMS Vendor Evaluation").

Supply Chain Execution Convergence

One of the most important trends in logistics management is a concept that Gartner calls "supply chain execution (SCE) convergence," which refers to the need for supply chain organizations to better orchestrate and synchronize execution processes across functional execution domains (see "Supply Chain Execution Convergence: Delivering on the End-to-End Process Promise"). In Gartner's 2014 SCM
user wants and needs survey, we found that more than 40% of respondents said that the inability to orchestrate and synchronize end-to-end business processes was one of the top three barriers to meeting their SCM goals and objectives. Warehousing and transportation are notable points of convergence, but they're not the only ones. True SCE convergence is when a vendor has developed multiple SCE and related functions on a common technical architecture that shares a UI, data model and business logic, and this is only obtainable from a small number of WMS vendors today.

Because SCE convergence plays such a prominent role in enhancing logistics performance, we have made it a central factor in this year's WMS Magic Quadrant. Given this change, and the effect it is having on the SCE application landscape, it has affected the positioning of some WMS vendors. While this impacts some vendors' positions in this Magic Quadrant, it does not affect the validity of particular WMS solutions for companies that are narrowly focusing on warehousing.

Deployment Model

In previous years, cloud and SaaS were notable distinguishing characteristics among vendor offerings. Initially, a small group of vendors supported these emerging delivery options; however, over time, more vendors unveiled cloud offerings. This reduced the differentiating characteristics due to deployment model. Indeed, there are still differences between those vendors offering pure multitenant SaaS WMS and those offering dedicated cloud WMS (that is, a single instance of the WMS hosted in the cloud supporting an individual company). While there are differences between the two approaches to cloud, Gartner's discussions with clients find that they do not have a strong bias one way or the other. If anything, we find a bias to dedicated cloud, especially if the customer expects to need customization. Accordingly, while the deployment model played a stronger role in our Completeness of Vision section in the past, now that the majority of WMS vendors have some form of cloud strategy it now factors more into the Ability to Execute section as we consider the vendor's ability to deliver cloud WMS.

Global Go-to-Market

This Magic Quadrant is an analysis of global WMS solutions. To qualify for inclusion, vendors must demonstrate that at least 10% of their revenues are generated outside their home regions. This is because international market expansion is a growing consideration in the WMS marketplace. We see two compelling trends in globalization. First, Gartner finds that large multinational organizations with multiple warehouses around the world are looking to standardize on a common global WMS; in the past they might have had a variety of regional solutions. Second, Gartner also finds WMS demand growth internationally, in the established economies of North America and Western Europe, but more importantly in the emerging geographies of Asia, Latin America, the Middle East and Eastern Europe.

We found vendor abilities to enable widespread regional and global product rollouts supported by globally available customer service ranked highly on a vendor's Ability to Execute. Consequently, vendor support for global go-to-market is a distinguishing characteristic that changed the positioning of some vendors in this year's Magic Quadrant.

User Experience

For several years, Gartner has heard from customers that WMS applications have trailed other application areas in terms of enhancements to the UI, and application support for more advanced and flexible decision support capabilities. In this year's Magic Quadrant, one of the notable areas of differentiation between vendors is user experience, and given customer interest, this has received more consideration in the evaluation of offerings. Additionally, analytics and related big data initiatives are becoming important in logistics, and especially warehousing (see "Hype Cycle for Supply Chain Execution Technologies, 2015").

Warehouse Environment

Gartner has historically placed high importance on a vendor's ability to support the most complex warehouse environments. This continues to be important for some companies; however, Gartner now finds that a high most advanced functionality. This is particularly true in emerging geographies, where their process maturity might only require a basic set of WMS capabilities. These companies still require robust core warehouse management capabilities, but do not need the most advanced extended WMS capabilities. This trend is exemplified by the growth in WMS sales exhibited by the megasuite vendors that offer "good enough" WMS capabilities for many of their current suite customers. Consequently, while we continue to assess vendors' abilities to support complex warehouse operations, we also consider how well a vendor can support less-demanding operations. This can result in vendors having similar positions on the Magic Quadrant, but for different reasons.

Small and Midsize Business WMS

Gartner sees two emerging growth markets for WMS. First, we project international growth in emerging economies like China, Brazil, Mexico and India. Second, we see growing demand in smaller organizations with less-complex warehouse management needs. We believe there will be a bifurcation of solutions, with one set targeted and best-suited for complex, sophisticated warehouse operations and another oriented to less-complex and resource-constrained operations. Furthermore, there could be two types of leaders in the future — complex and simple. To address the needs of small and midsized businesses (SMBs), it's not just about price or "dumbing down" higher-end systems, but about designing for the needs of SMB users. Traditional WMS vendors have fallen into the trap of adding more and more functionality, which equates to increased complexity. Even if some of it can be disabled, the complexity still remains, and this won't fit the needs of this market.

Extreme Verticalization

Even though core WMS is approaching parity across offerings, some industries require very specialized 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.
capabilities that reach well beyond the basic receive, store, count, pick, pack and ship capabilities of most WMSs. Extreme verticalization is where the fundamental needs of the business demand a specialized WMS solution. Some vendors demonstrate leadership in demanding industries and offer unique solutions, as well as add on capabilities, specifically built for these industries. Furthermore, users benefit from vendors with dedicated domain expertise that helps them understand how the WMS fits the needs of their industry.

Zero-Modification Implementations

Historically, WMSs were heavily modified largely because the closer applications get to the actual operational level, the more important it is that they support the most efficient execution of an activity — if modification was needed, so be it. The problem was that, while justifying the change was easy, historically, the extent of modifications required made WMSs among the least upgraded, often inhibiting the ability to adapt to future process needs. Consequently, users are increasingly focused on the painful costs of previous modifications to their WMS systems. They can spend more than 50% of postimplementation total cost of ownership (TCO) to support these modifications, and many are looking for ways out of this situation. Vendors are starting to meet these requirements with improved technical architectures that minimize the amount of code-level modification. This shifts changes to configuration or rules modification. Also, some solutions are now built around scripting languages or model-driven process management capabilities. Given the importance of this, reviewing a vendor’s technical architecture is critical during vendor evaluations. This should be second only to functionality. Because users are now demanding vendors have a coherent strategy for delivering a zero-modification implementation, Gartner sees this as a critical component to a vendor’s success in this market.

**Magic Quadrant**

![Magic Quadrant for Warehouse Management Systems](http://www.gartner.com/technology/reprints.do?id=1-2X7ICEM&ct=16...)

**Figure 1. Magic Quadrant for Warehouse Management Systems**

**Vendor Strengths and Cautions**

**HighJump**

In July 2014, Accellos and HighJump Software merged. The combined entity now operates under the name HighJump, but continues to use the brand name Accellos for its 3PL and midmarket WMS solutions. The vendor now has approximately 810 employees and 15,000 total customers, the vast majority of which are trading partner integration technology (electronic data interchange [EDI]) customers, with more than 1,100 WMS customers spread across its three WMS offerings. The majority of the vendor’s revenue comes from North America, but now close to one-third of its revenue is generated internationally, equally divided among Europe, Latin America and Asia.

HighJump now offers three distinct WMSs. AccellosOne WMS was designed specifically for SMBs, and emphasizes ease of use, rapid time to value and lower TCO. AccellosOne Enterprise 3PL is specifically aimed at midsize to large 3PL providers, and was designed from the beginning to address the
multitenant (customer) needs of 3PLs, with specialized capabilities for things like SLAs, customer profitability and billing. HighJump Warehouse Advantage serves the midsize to large enterprise WMS market.

Gartner estimates that there are more than 415 Warehouse Advantage customers, more than 560 AccellosOne WMS customers and 130 AccellosOne Enterprise 3PL customers. Warehouse Advantage is most often used in Level 3, but can scale from Level 2 to low Level 4 operations, with some Level 5 users. AccellosOne WMS is best-suited to Level 2 and low Level 3 warehouse operations, and AccellosOne Enterprise 3PL warehouse management fits Level 2 to Level 3 operations.

**Strengths**

HighJump Warehouse Advantage's technical architecture allows customer-specific changes to be made at the business-logic level, with no changes made to the underlying source code that protects the customer’s upgrade path. Customers continue to say this is the most intrinsically customizable WMS product, and they cite this as the primary reason why they selected the vendor.

The vendor offers three distinct WMSs aimed at the explicit needs of different warehousing environment markets — enterprise (Levels 3, 4, 5); SMB (Level 2, low Level 3); and 3PL (Level 2, 3, and low Level 4).

The vendor pioneered App Station, a unique approach to packaging customer- and vendor-developed innovation. It is analogous to Apple’s App Store.

The vendor has strong and active partnerships and integrations with popular SMB ERP solutions, with prepackaged connectors for Acumatica (new cloud ERP), Microsoft Dynamics, NetSuite (cloud ERP/CRM), Sage and SAP Business One.

Accellos had an SCE convergence strategy, providing WMSs and other application areas (such as transportation management and EDI) on a common technical platform, AccellosOne Platform. This strategy remains with the HighJump merger, but will likely evolve.

HighJump has a strong technology vision and is very Microsoft-centric, taking advantage of contemporary Microsoft technologies. It continues to innovate, as evidenced by its Supply Chain Essentials portfolio of applications that leverage open APIs to allow these solutions to be stand-alone or substrata for other applications.

**Cautions**

HighJump customer references continue to indicate that quality and scope of professional services are not on a par with Leaders in this Magic Quadrant. While HighJump continues to add service delivery resources and delivery partners, it has been rapidly growing new customers across its various WMSs, and this stresses service capacity.

The vendor's core WMSs are competitive, but they lack the depth and breadth of extended WMS capabilities when compared with WMS Leaders.

Prior to the merger, HighJump did not have a compelling SCE convergence vision or strategy. While Accellos added other SCE assets, such as transportation, its SCE convergence strategy is convoluted, given that it has three different WMSs.

The vendor's WMS business remains primarily in North America, although it is growing customers in other geographies. Companies outside North America that are considering Accellos should carefully evaluate resource availability — vendor and third party.

Prior to the merger, HighJump used an indirect sales model for international sales and support, as did Accellos, but these were different channels. Prospective customers will have to ensure that any channel consideration has experience with the product under consideration.

The combined company will now serve two markets — the SMB market with the Accellos WMSs, and the higher-end WMS market with HighJump's offering and, possibly, the Accellos 3PL offering. Prospective customers will need to clearly define their current and future requirements to ensure that they select the most suitable WMS.

**Infor**

Infor's SCM portfolio is composed of a number of SCM-related applications, as well as various degrees of SCM embedded in several of its ERP solutions. Infor SCM products range from various supply chain planning (SCP) applications to SCE, which includes warehousing and transportation. Infor has converged its legacy WMSs and transportation management system (TMS) solutions into a unified suite, Infor Supply Chain Execution (SCE). It continues to make progress selling SCE to existing and new customers, with about 75% of its new WMS deals involving existing customers and 25% in net-new customers. Infor has been successful selling Infor SCE, completing approximately 170 new transactions during the past 12 months that were spread within and outside North America, with almost 60% of its total WMS deals being international (38% in Asia/Pacific and 23% in EMEA). Furthermore, it continues to add new functionality, as well as technology components, such as Infor Intelligent Open Network (ION) for integration, dashboards for performance management, and Infor Ming.le for social collaboration and contextual analytics. Infor also is adding enhanced mobility capabilities. Infor SCE is most often used in Level 2 and Level 3 warehouse operations.

**Strengths**

Infor has a very large ERP customer base, and Infor SCE is an effective alternative to specialist WMS offerings for a high percentage of these users. Infor SCE is a viable option for a high percentage of the company’s ERP customers that are looking for a reasonable WMS provided by a single vendor with global support capabilities. However, Infor SCE is not limited to Infor’s ERP customers — about one-quarter of its new customers are stand-alone WMS buyers.

Infor is one of the strongest WMS vendors in Asia, showing up as a finalist in many WMS initiatives in this region. It also has a strong global presence of direct and indirect sales and support, and has an edge in many emerging market deals.
The vendor has delivered on a platform strategy for Infor SCE, and is pursuing an SCE convergence strategy by moving capabilities (such as transportation management, mobility and event management) onto a common technical platform.

The vendor has laid out a compelling strategic vision for methods for enhancing the extensibility of Infor SCE 10.

Infor SCE exploits Infor’s significant investment in its technology platform, which includes social collaboration through Infor Ming.le, mobile applications, in-context business intelligence (BI), and out-of-the-box integrations with Infor’s ION purpose-built middleware.

Infor SCE exploits Infor’s new UI and in-context embedded analytics capabilities, and, as such, provides one of the more contemporary user experiences, putting it ahead of the majority of WMS vendors. Furthermore, its new HTML5 mobile UI moves beyond the traditional character-based user interaction, adding some social collaboration (for example, texting) capabilities.

Cautions

Infor SCE lacks the overall breadth and depth of WMS market Leaders. Although Infor continues to invest in developing Infor SCE, it is a nondifferentiated WMS product in complex Level 4 warehouse environments. However, Infor has exploited some of its technology investments, such as Infor Ming.le, to offer distinctive usability capabilities.

While Infor has an intriguing middleware strategy for integrating WMS with its numerous existing ERP solutions, users should still validate and test ERP and WMS integrations.

Customer references reported concerns with the software quality, as evidenced by the number of bugs in Infor SCE 10 and the slow speed by which these bugs were eventually fixed. However, these same references rated the vendor “better than average” in terms of its client relationships and meeting obligations.

While, at the corporate level, Infor is aggressively pursuing cloud, it trails in warehouse management, and has only recently implemented initial dedicated cloud customers, with plans for multitenancy in the future.

Customers of Infor’s complex legacy WMS that have migrated to Infor SCE have reported challenges. Most complex legacy WMS customers should consider a change to Infor SCE as a new implementation, not a migration. These customers also should scrutinize the basic functionality of SCE compared with their existing capabilities and requirements for core and extended WMS capabilities, while also developing strategies for how best to address any of the company’s previous customizations that might remain important.

JDA Software

JDA Software is the largest independent SCM suite vendor, offering a broad catalog of SCM solutions that includes WMSs, transportation management, SCP and retail planning. Three years after supply chain software and service providers RedPrairie and JDA merged, the now far-larger combined entity is finally beginning to recover from some of the initial mistakes it made postacquisition. WMS execution issues had plagued the company — especially in service, support and development — due to resource losses. There was a significant change in leadership, a bit over a year ago, that now positions JDA better. Some of the challenges linger, however, and it will take time for these to completely resolve themselves. JDA had multiple WMSs and, until recently, had two primary offerings — JDA Warehouse Management and JDA Dispatcher. However, JDA is now pursuing a WMS convergence strategy; it is merging functionality from both products on top of the JDA Warehouse Management technical platform. JDA has nearly 780 total WMS customers across all of its WMS offerings. The company’s roots in warehouse management include more than three decades of working in some of the most complex warehouse environments, and it continues to focus primarily on the higher end of the WMS market. JDA Warehouse Management is most often used in Level 3 and Level 4 warehouse operations, but can scale from high Level 2 to Level 5 operations.

Strengths

Customer references continue to cite the breadth and depth of JDA Warehouse Management as best in class, and as the principal reasons why they selected the vendor’s offering. JDA has a large installed base of complex and sophisticated customers, and has historically been at the forefront of functional innovation. The vendor has a long track record of delivering WMS solutions for some of the most complex warehouse operations; in addition, it has demanding clients.

JDA has one of the most diversified WMS customer bases, with its 780 customers spread across 19 vertical industries. Furthermore, the vendor has notable strength and is a dominant provider in three key vertical industries — consumer goods (174 customers), 3PL (nearly 200 customers) and pharmaceuticals (nearly 50 customers), and is growing in other business areas like retail, wholesale distribution and manufacturing.

The vendor offers tools and methodologies (for example, WMS Now) that help facilitate and minimize the complexity and cost of multisite warehouse rollouts.

The vendor has an intriguing innovation lab where it conducts primary research, studies, prototypes and evaluations of emerging trends and technologies; and manages a process of innovation commercialization.

The vendor and its WMS provide the strongest support of independent WMS providers around WMS integration with manufacturing processes. In addition, it provides embedded support for lightweight manufacturing execution activities, with capabilities such as multilane production scheduling, tracking component-level inventory attributes in a multilevel bill of materials, streamlining line setup and execution, and managing raw materials (including backflush and scrap).

The vendor offers strong related products, such as workforce (labor) management, traceability and performance management within its WMS portfolio, as well as a broad and deep TMS from its previous acquisitions. It also offers differentiated capabilities in traceability, having recently released its second-generation offerings in this area. This will position the company to potentially
support evolving e-pedigree requirements in industries such as life sciences.

**Cautions**

Once again this year, customer references expressed concerns with the vendor’s services, support and development quality. However, the vendor has initiated strategies, processes and added new management to address these issues.

Customers also highlighted some lingering challenges with consulting resource constraints, as well as some quality issues with consultants. A number of customers have said they continue to be forced to look to third-party service providers to support their projects. The vendor says it has now increased consulting staff and is increasingly intentionally choosing to use its partner network for services when clients are looking for a more cost-effective option.

The vendor lacks a specific SMB WMS offering, choosing instead to use partners to deliver an SMB-focused iteration of its standard WMS. While this strategy is nascent (launched in 2014), customer growth has been respectable at about 30 new SMB customers.

JDA’s strategies and methodologies for addressing customization have changed, largely to benefit customers and prospects. While in the past there was more in-the-field modification, JDA has now put more structure around these processes that will improve control, but partially at the expense of increased cycle times.

While the vendor is pursuing an SCE convergence strategy, which it refers to as Intelligent Fulfillment, it is hampered by the previous acquisitive natures of both JDA and RedPrairie, which currently makes this an integration strategy, not a platform strategy. However, while not as technically refined as other vendors’ offerings, Intelligent Fulfillment will interface WMS, TMS and other JDA applications, while adding additional capabilities that bridge the various solution environments.

**LogFire**

Based in Atlanta, with staffed operations in Latin America, Africa and Asia/Pacific, LogFire is a vendor of multitenant cloud-based SaaS WMSs. It is one of the smaller vendors in this Magic Quadrant and did not meet the inclusion criteria for revenue, but significantly exceeded the inclusion requirements for customer growth — an 87% compound annual growth rate (CAGR) over the past three years. The founders and executive team have deep roots in WMSs, having come from long stints with perennial WMS Leaders. Because of the management team’s domain expertise and past experience, LogFire has established itself as a standout in true multitenant SaaS WMSs. It is strongest in multichannel and e-commerce fulfillment in the consumer goods, wholesale, retail, apparel and 3PL industries, although it is not limited to these markets. For its size, the vendor’s sales and revenue are well-distributed internationally, with 52% of its revenue from North America, 41% Latin America and, currently, 7% from the rest of the world. At the time of this research, LogFire and Oracle have formed a partnership wherein LogFire is the WMS solution component for Oracle’s SCM cloud strategy. LogFire is most often used in Level 3 operations, but can scale from high Level 2 to Level 5 operations.

**Strengths**

The vendor provides a comprehensive multitenant cloud WMS offering, with particular strengths in environments that require strong processing flexibility and value-added service capabilities, such as omnichannel retail, consumer goods and apparel manufacturing, and 3PL providers. However, the solution is not limited to these markets.

The vendor provides a robust, scalable, and adaptable technical architecture and cloud platform that is used globally in various strata of warehouse operations, including Level 5 automated facilities.

LogFire offers its clients a well-defined and comprehensive portfolio of solutions and managed services. The ratio of implementation and service costs to software costs is below average, and, in some cases, significantly below the norm.

Customer references praised the vendor for strong customer intimacy, the functional depth and usability of its WMS product, cost of ownership, and domain expertise and services.

LogFire has implementations in North America and internationally, and it has a unique commitment to Latin America among the market players, with a direct local presence in multiple countries, coupled with numerous live implementations.

The vendor has expanded its footprint to include a store inventory offering to support omnichannel retail operations.

**Cautions**

LogFire is growing extremely fast. If it continues to grow at this pace, then resources could become constrained. This could be exacerbated by its recent partnership with Oracle.

The vendor trails in building a system integration partner program, compared with the Leaders. An integrator partner program, when developed and readily available, could help support LogFire’s explosive growth with much-needed implementation and consulting resources.

Sales and implementations are predominantly in North America and Latin America, while Asia/Pacific and Europe are being pursued opportunistically.

While Gartner recommends that customers pursue a zero-modification implementation, we still find that customers often require company-specific changes that could become problematic in a true multitenant SaaS application, where customers share a single instance of the software. To date, however, LogFire’s development and release methodology has been able to deliver unique customer requirements as part of the product roadmap, but questions remain as to whether this approach can scale as the vendor grows.

The vendor primarily offers and prefers to deliver its WMS as multitenant SaaS, and is disinclined to license on-premises. It will, however, consider dedicated cloud for select customers and those with high-volume materials-handling environments.
The vendor lacks a compelling SCE convergence strategy, but it is partially addressing this through some organic development and by partnering with other providers of SaaS solutions.

**Made4net**

Made4net is a small, approximately 10-year-old vendor of WMS and related solutions, such as transportation and delivery management. It is headquartered in Hackensack, New Jersey, with offices in Tel Aviv, Israel, and Shanghai, China. It has about 100 employees and more than 300 customers, with the solution primarily sold by a few dozen resellers that sell and implement WMSs. Made4net currently has resellers and customers in about 20 countries, with 67% of its business outside North America. While its revenue is below our inclusion criteria, Made4net qualified because of its previous four-year customer CAGR of 51% and WMS revenue CAGR of 39%. Made4net's focus is primarily on SMBs, and it is most often used in Level 1, 2 and 3 warehouse operations.

**Strengths**

It has a primary focus on the SMB (Level 2 and low Level 3) WMS market. The vendor has designed its product and go-to-market strategies with this focus in mind.

It has demonstrated rapid growth for a vendor of its size, with compound growth close to 40% during the past four years. This also validates its go-to-market strategy and processes for leveraging resellers to sell and implement its solutions.

It has a strong service-oriented architecture (SOA) technical architecture designed for SMBs, with built-in services like a rule engine, event management and APIs for integration.

It has a compelling international sales track record. Two-thirds of its business is international, and it has customers in 20 countries. Also, it has SCE convergence for SMBs, with six product categories (WMS, yard management, labor expert and three transportation solutions) on a common technical stack.

**Cautions**

Made4net is a small vendor with approximately 100 employees. It qualified for inclusion in this Magic Quadrant based on its rapid compound growth and its global sales.

It primarily sells and implements using resellers, so prospective customers must vet the reseller as much as (if not more than) the vendor. Likewise, customers with multisite rollouts that span the territories of the vendor's resellers should work proactively with the vendor to mitigate any potential channel conflicts.

Made4net's WMS primarily has been sold and implemented as an on-premises application, but the vendor recently began to offer its WMS as a SaaS or managed service that allows for dedicated cloud deployment.

The application is not model-driven. The rule engine is based on decision tables, although the vendor has a future intention to move toward a scripting type of language or visual workflow.

**Manhattan Associates**

Manhattan Associates offers a broad suite of SCM solutions that includes three different WMSs, transportation, Distributed Order Management, SCP and supplier enablement. In the case of its open-systems platform, it offers all of the above capabilities on a single technical platform, with all functional capabilities sharing a UI, a data model and common tools, such as a rule engine across the suite.

The vendor has very deep roots in WMS that go back more than 25 years. While the vendor is global, the majority of its revenue (currently more than 75%) comes from North America, and a high percentage of its international customers use its Supply Chain Architected for Logistics Execution (SCALE) offering. Its three distinct WMS offerings are targeted at different markets: SCALE, which is based on a Microsoft technical platform and caters to the SMB and 3PL WMS markets; Warehouse Management for IBM i, which caters to customers that prefer the reliability and ease of operation of the IBM i platform; and Warehouse Management for Open Systems (WMOS), which caters to sophisticated warehouse environments.

Manhattan targets SCALE for independent Level 1 through Level 3 warehouse environments, where usability, ease of use, implementation and support — combined with lower cost of ownership — are critical criteria. Warehouse Management for IBM i is most often used in Level 3 and Level 4 warehouse operations, but can scale from high Level 2 to Level 5 operations. WMOS is most often used in Level 4 and Level 5 warehouse operations, but can scale from Level 2 to Level 5. Furthermore, with its store inventory offerings, WMOS can scale from Level 1 and Level 2 operations at the store through Level 3 and Level 4 for complex, people-centric warehouses, and up to Level 5 for highly automated DCs.

**Strengths**

Manhattan offers three discrete WMSs that uniquely serve the needs of three diverse warehousing environment markets.

WMOS offers industry-leading depth and breadth of both core and extended WMS capabilities that are especially well-suited (but not limited) to high-complexity and sophisticated e-commerce and multichannel commerce warehouse operations.

Manhattan is focused on organic, self-directed innovation. It continues to bring to market self-developed and complementary components, such as Distributed Order Management (DOM), Store Inventory, Store Fulfillment and Order Streaming. It also is led in releasing a next-generation UI (DM Mobile), and is adding planning logic to warehouse management.

The company has a compelling vision, with a strong, existing technical platform for next-generation SCE convergence. It is gaining customer traction with its architectural strategy, with more than 100 customers now committing to its platform.

The vendor has a team of math and science experts that is investigating innovative ways to
exploit emerging technologies and decision-making enhancements through the use of embedded analytics across the platform. For example, its new approach to wave-less picking, which the vendor calls Order Streaming, addresses complex pick sequencing issues found in high-velocity e-commerce warehouses.

Manhattan is extremely focused on multichannel retail. It is the largest vendor (and one of the few vendors) that can address multichannel (omnichannel) commerce on a single platform, with strong offerings in logistics (WMS and TMS), DOM and store operations.

Cautions

While all of the ISV WMS vendors Manhattan has the largest SCE consulting organizations and its service methodologies are robust, it remains heavily dependent on service revenue. This means it needs to staff and manage numerous, large service engagements every year. Because of this, customers also must diligently manage service engagements.

Manhattan lacks a broad or compelling vertical industry strategy beyond its historical strengths in retail, apparel, consumer goods and wholesale distribution.

The vendor lacks an extensive ecosystem of end-to-end or global implementation, system integration and service partners. However, partners are involved in a notable percentage of its large deployments, providing complementary supporting services such as overall project management, change management and multisite rollouts.

Outside North America, there is inconsistent support for non-WMS platform-based applications, such as SCP or transportation. Companies interested in broad SCE convergence should focus on the company's WMOS solution, because it is part of the Manhattan platform application portfolio. SCALE is purpose-built for midsize or smaller warehouse operations. Although the functionality is solid and can handle moderately complex warehouse operations, the product is not designed or intended for highly complex, high-throughput facilities where WMOS or Warehouse Management for IBM (formerly Retek) are better choices. Furthermore, SCALE is well-suited for SMB-type logistics operations, while many of the vendor's other offerings are targeted at sophisticated and complex environments.

The vendor uses partners for sales and implementations in emerging geographies. Prospective users in these markets must validate the partners’ capabilities and product considerations during evaluation.

Oracle

Oracle offers a fully functional WMS as part of the Oracle E-Business Suite (EBS), which is the solution evaluated here. At the time of this research, Oracle has been pursuing an aggressive SCM cloud strategy that includes Oracle Inventory Management Cloud for basic materials management functionality. Oracle has chosen to partner with LogFire, a multitenant cloud WMS provider, for its cloud WMS offering.

Oracle Warehouse Management (WMS) is a mature, yet continually evolving offering. Gartner estimates that Oracle has more than 1,700 WMS customers worldwide, with more than 40% of those customers international.

Furthermore, Oracle EBS WMS is deployed across roughly 20 vertical industries, and has unique strengths in industrial manufacturing, high technology and life sciences. The solution offers a choice in its deployment approach. It can be provided as a seamlessly integrated extension to Oracle EBS for customers seeking an integrated ERP and WMS, or it can be deployed stand-alone in a distributed WMS environment.

Oracle also offers a separate mobility solution, Oracle Mobile Supply Chain Applications (MSCA), which provides simplified RF/mobile-device-based transaction capabilities, such as receiving or picking. While not a full WMS, MSCA can automate, within EBS, key Level 1 warehouse functions in areas where a holistic WMS is not needed.

Although not part of this research, Oracle’s JD Edwards EnterpriseOne and Oracle Retail (formerly Retek) have WMS capabilities within them, so these might be viable alternatives for customers seeking reasonable WMS capabilities integrated with a strong midmarket ERP system or a suite of retail applications.

Oracle EBS WMS is most often used in Level 2 and Level 3 warehouse operations, but can scale to low Level 4 and Level 5 operations. Furthermore, Oracle EBS can handle Level 1 operational requirements with just Oracle MSCA alone.

Strengths

Oracle has a strong global reach. Its WMS is more deployable around the world than the comparable products of most independent WMS vendors, with more than 40% of its customers outside North America.

The vendor’s WMS has broad vertical industry penetration, especially in industries that specialist WMS providers do not often target (such as industrial manufacturing, high tech, aerospace and defense, healthcare, natural resources, and the public sector — which Gartner estimates, compose more than 50% of Oracle’s WMS customer base).

Oracle continues to increase the breadth and depth of its WMS functionality. Gartner has talked with numerous customer references from moderately complex warehouse environments, and Oracle is now servicing an increasing number of Level 4-complexity warehouses.

Oracle continues to exploit its investment in current-generation Oracle technology, such as mobility, rule engines and flexfields, to simplify WMS use. The combination of the Oracle WMS workflow and its rule engine makes the solution user-customizable and tailorable, thus approaching Gartner’s definition of a model-driven and zero-customization WMS. Furthermore,
Oracle has been out in front in modernizing the user experience and exploiting embedded analytics with its Oracle Warehouse Management Information Discovery application. The vendor has compelling visions for SCE convergence with process integration, and for orchestration with transportation, yard management, manufacturing and product aftermarket service, such as depot repair.

Oracle has a large, experienced and growing ecosystem of implementation partners, which Gartner estimates to be more than 30.

Cautions

From a WMS product perspective, Oracle is not yet as functionally broad or deep as specialist vendor WMS Leaders, but it continues to add functionality to its WMS. It also partners to fill some gaps, such as in warehouse labor/workforce management, slotting and parcel management.

Although Oracle’s core WMS capabilities are nearing those of WMS market Leaders, the vendor’s value-added, extended WMS components are not yet extensive or mature.

Historically, this product was not a common alternative for non-Oracle EBS users, since a key benefit of Oracle WMS was its seamless integration with ERP. The vendor can now offer WMS stand-alone on a separate instance from Oracle EBS, but non-EBS users should deeply scrutinize interapplication integration issues.

While the vendor has strong SCE convergence capabilities between WMS and ERP, it does not have the same strong SCE convergence between Oracle WMS and Oracle Transportation Management (OTM) and Oracle Global Trade Management (GTM), since OTM and GTM reside on a separate platform. It does, however, offer integrations between the offerings.

While Oracle is strong in industrial products, high technology and consumer goods, it is not as strong — and has fewer customers than other WMS providers — in wholesale distribution retail and 3PL (although it has a very strong solution for 3PL in OTM).

The vendor has a compelling SCM Cloud vision and strategy; however, for WMS, the vendor has currently chosen to partner with a strong cloud WMS third party, LogFire.

Reply

Reply is a Europe-based company that provides a wide array of IT services. Reply has revenue of nearly €700 million, with a primary focus on consulting, system integration and digital services. Reply has been in business for 18 years developing, implementing, and supporting SCE services and software applications. It offers two WMS solutions — Click Reply and SideUp Reply. Click Reply is a Web-based solution that can be deployed on-premises or hosted. SideUp Reply is a multitenant SaaS WMS. Reply claims to have about 152 named WMS customers across Click Reply and SideUp Reply. The majority of the vendor’s WMS customers are in Europe (76%), with the remainder spread between North America (13%) and Asia and Latin America (2% and 9%, respectively).

Click Reply is the vendor’s legacy WMS, and is focused on multisite, complex warehouses with high numbers of users that often use materials-handling automation. Click Reply is most often used in Level 3 and Level 4 warehouse operations, and can scale to Level 5 operations.

SideUp Reply is the vendor’s contemporary offering, and is a partial SCE platform. In addition to WMS capabilities, it has supplier collaboration, lightweight transportation, appointment scheduling, proof of delivery, and new capabilities like drop-ship and store logistics on a common technical platform. SideUp Reply generally caters to less-complex warehouse-centric network environments, and is most often used in Level 2 and Level 3 warehouse operations. With store logistics, however, it can handle some Level 1 capabilities, and can scale up to low Level 4 operations.

Strengths

Reply remains strongest in Europe, with three-quarters of its business there; however, it is growing its presence in other geographies. Of the Europe-centric WMS ISVs, it has the largest amount of global revenue, and this portion of its business is growing.

Although Reply is a modest-size WMS provider, it is part of a financially stable and rapidly growing business that has grown during the past 15 years from around €20 million to nearly €700 million. Because WMS is part of the much larger global organization, with strong consulting and system integration capabilities, Reply’s solution delivery capabilities and capacity are far greater than comparably sized stand-alone WMS providers.

The vendor has broad and well-balanced industry coverage in 3PL, automotive, grocery and food, pharmaceuticals, chemicals, telecoms, and fashion. It is particularly strong in service parts logistics and automotive production logistics, and has several notable customers. More recently, it has been growing its presence in retail organically, thanks to some of its recent innovations, such as dropship and store inventory.

The vendor can offer WMSs on-premises, hosted or in a multitenant cloud/SaaS. While several WMS vendors have taken their on-premises applications and can now host them as single-instance dedicated clouds, Reply offers this with Click Reply — but it also offers true multitenant cloud with SideUp Reply.

The vendor is becoming an innovator, commercializing and delivering new capabilities, like drop-ship and store logistics, as well as experimenting and testing the commercial viability of emerging technologies ahead of market demand (such as the use of drones in a warehouse).

Cautions

Reply is primarily focused in Europe, but is demonstrating some expansion into other geographies (notably North America and Latin America).

WMSs and packaged business applications are not Reply’s core business, and this may result in long-term strategic realignment. While there is no indication of this today, Gartner has observed this type of strategic evolution repeatedly in similar situations.
The vendor is not as broad, deep or proven in extended WMS capabilities as the Leaders are. One of the vendor’s strengths is its balanced market penetration across multiple vertical industries, with no single industry having greater than 15% penetration. However, this suggests that the vendor is not focused on, nor expert in, all industry sectors, although it does have differentiated expertise in some — such as automotive.

It has not demonstrated a comprehensive SCE convergence strategy at this time. However, the vendor has some intriguing and proven convergence capabilities, especially in the areas of automotive production logistics, manufacturing execution and co-managed inventory.

**SAP**

SAP continues to offer two distinct WMS solutions — SAP ERP Warehouse Management (ERP WM) and SCM Extended Warehouse Management (EWM). EWM is SAP’s principal focus now, and, going forward, it is the solution evaluated here. From its inception, SCM EWM was built on SAP NetWeaver to take advantage of the SOA common to many of SAP’s newest solutions. SCM EWM broadens and deepens the vendor’s WMS functionality. SCM EWM is not a new application, since it has been commercially available for more than eight years, and has, Gartner estimates, more than 1,000 customers. SAP has been aggressive in selling and implementing SCM EWM, as well as in growing its ecosystem of partners.

SAP has strong momentum in the WMS marketplace, annually adding more new and live customers than most other WMS specialist vendors. SAP EWM remains strongest in Europe, with, Gartner estimates, 56% of its customers in this region, a bit more than 20% in North America, around 14% in Asia and 9% in Latin America. It has very diversified vertical industry coverage, with particular strengths in consumer goods, wholesale distribution, retail and 3PL (which combined represent about 60% of its customer base). SAP EWM is most often used in Level 2 and Level 3 warehouse operations, but it can scale up to Level 5 operations.

**Strengths**

SAP SCM EWM has been the fastest-growing WMS in terms of net-new customers over the past eight years, having grown from nothing to around 1,000 customers during that time frame. This momentum has largely happened in the past five years as SAP focused more attention on SCM EWM.

SAP SCM EWM was designed to provide functionality for complex warehouses, and SAP continues to broaden its capabilities, such as yard management, slotting and rearrangement. It offers a native warehouse control system (WCS), Material Flow System (MFS), which allows SCM EWM to directly connect to programmable logic controllers. Furthermore, it has introduced new capabilities like its quality management, production staging cockpit and Hana-based labor planning solution. SAP has a compelling platform strategy for addressing SCE convergence. SCM EWM offers strong integration with SAP Business Suite and other components, such as Transportation Management; trade compliance; and environmental, health and safety.

SAP has a substantial global presence, as well as global go-to-market and deployment capabilities. Currently, it has customers in 37 different countries. Furthermore, SAP has a large and growing global ecosystem of implementation and consulting partners.

ERP WM and SCM EWM are strong solutions for manufacturing warehouse operations, where raw materials are stored in the warehouse, then pulled from the warehouse and consumed in the manufacturing process — and where finished goods flow through a “hole in the wall” from production back into the warehouse.

SCM EWM is used across 24 vertical industries, with no single industry representing more than 20% of the total customer base.

**Cautions**

SAP SCM EWM is best suited as an add-on to SAP ERP Central Component (ECC). It is not a strong candidate, however, for a completely stand-alone WMS implementation, when compared with ISV WMS offerings that are better designed and suited to integration with third-party vendor ERP applications.

For complex deployments, the TCO remains higher than equivalent ISV WMSs, principally due to implementation costs. For less-complex deployments, SAP utilizes Rapid Deployment Solutions (RDSs), which are fixed-price, fixed-scope and fixed-timeframe service offerings. Typically, however, these are not appropriate for moderately complex implementations, where the TCO remains high.

Although the product’s core WMS capabilities are sound, the vendor continues to trail in overall functional depth, and lacks the capabilities, experience and implementations of extended WMS capabilities.

While SAP has a very large installed base for ERP WM, SCM EWM is a completely different product, and companies that are thinking of moving to it should consider this a reimplementation. However, the vendor and several partners now offer RDSs for migration from ERP WM to SCM EWM.

There have been many improvements in design over ERP WM, but SCM EWM is still a complex product. Although customization is augmented by having several hundred enhancement spots (that is, user exits), they need to be used judiciously. References say that configuration requires technical resources; however, with ISV WMSs, this typically can be done by operations/businesspeople (that is, power users).

The vendor has introduced a new pricing methodology based on WMS transaction (delivery items) volume throughput, which is combined with its traditional user-based licenses. Delivery items include inbound and outbound items. For large operations, this could result in disproportionately high prices, while smaller operations actually may benefit from the new model.

**Softeon**

In business for more than 10 years, Softeon is a small, privately owned vendor of SCE solutions. It is...
one of the smaller vendors in this Magic Quadrant. It did not meet the inclusion criteria for revenue, but did exceed the inclusion requirements for customer growth (with 30% CAGR over the past three years).

It has a compelling value proposition that combines leading-edge SOA technology with rich WMS functionality, an SCE convergence platform and customer intimacy. It also has a rapid development environment that allows the vendor to add new capabilities at a faster pace than many of its larger competitors. While its roots are in WMSs, the vendor has a compelling SCE convergence vision and portfolio today, with capabilities such as distributed order management, as well as some transportation and planning on a common technical platform. Softone is one of the more innovative, partner-oriented vendors in this market, as evidenced by the work it did to adapt warehouse management concepts and its WMS to the unique needs of digital media (for example, music and video) distribution for one of its customers. The vendor has approximately 70 customers, some of which have very large WMS implementations. Softone is most often used in Level 3 and Level 4 warehouse operations, but can scale from high Level 2 to Level 5 operations.

**Strengths**

- Softone offers a broad and deep suite of SCE capabilities centered on its strength in WMS, including core WMS and extended WMS capabilities, as well as functional areas like distributed order management, returns management, SCP and direct store delivery on a common technical platform. The vendor is particularly strong in 3PL, which represents about 50% of its customers.
- The vendor's WMS is built on a strong and flexible SOA, which has allowed it to rapidly introduce new capabilities. Although the product is not yet a truly zero-modification environment, the company offers tools, such as a strong rule engine, that allow for user tailoring without modification.
- For its size, the vendor has a strong and well-organized offshore development and service organization, with more than 360 employees.
- Softone has taken a unique approach to cloud by offering the same solution on-premises and in various cloud deployment models from dedicated cloud to true multitenant SaaS. It has a unified data model/foundation for its WMS cloud offering for SMBs and its enterprise version. This unified data model/foundation eliminates expensive data migration and facilitates the incorporation of additional complex functionality as business growth demands.
- It is pursuing a somewhat unique SCE convergence strategy, moving areas such as vendor-managed inventory, distributed order management and SCP onto the same platform as its WMS.
- Softone is one of the few WMS vendors that offers fixed-price implementations, and its service rates are well below average in the WMS market. Furthermore, customers continue to be complimentary of the vendor and its services, particularly its structured solution delivery methodology, which Softone calls Iterative Solution Realization.

**Cautions**

Since the vendor is small and has a strong product, it remains a takeover candidate.

Softone's strengths have been, and continue to be, in engineering, consulting and product development, not marketing and sales, and this has constrained its growth. However, it continues to increase investments in marketing and business development, and, recently, it has modestly begun to show up in more new deals.

The vendor remains largely a North American-centric organization with 75% of its revenue in this region. However, it is showing growing success in international markets, with about one-quarter of its new business being international, with numerous international deployments live or in progress, and with a local presence and customer growth in Latin America and Europe.

Customer intimacy, service and consulting resources have historically been praised by clients. However, with its rapid growth in terms of numbers of net-new customers and the size and scope of some of its recent deployments, services could become a challenge.

For its size, Softone's SCE convergence strategy is compelling, and it has been pursuing aggressive product expansion. With a growing number of solutions in its SCE suite, Softone will have to make tough choices about which products it aggressively takes to market beyond the core WMS, and which products it only opportunistically sells as add-ons in WMS deals.

**Synergy Logistics**

Synergy Logistics, formed in 1972, is a U.K.-headquartered software company focused on WMS, with clients ranging from SMBs to global organizations. Snapfulfil is the most recent cloud WMS offering from the vendor. It is one of the smaller vendors in this Magic Quadrant. It did not meet the inclusion criteria for revenue, but it did exceed the inclusion requirements for customer growth (with 23% CAGR over the past three years).

In 2006, Synergy Logistics built Snapfulfil from the ground up using Web-native technologies and deployment methodologies. While it can be considered an on-demand cloud WMS, it is not multitenant SaaS. The vendor claims to have added 28 new customers during the past 12 months for a total of around 70 customers — the majority of which (60%) are in the U.K., while 40% are in North America. Snapfulfil has a unique turnkey-managed service business model; that is, its staff performs the complete turnkey implementation for its customers, which includes the software, RF hardware and implementation costs in the subscription fees. The customer doesn't pay anything until the software goes live (today, the average time across customers is eight business weeks). Synergy Logistics wants the customer to get the system to deliver value as quickly as possible, and is committed to a no-capital-expenditure delivery. This proves that transformations in business model, go-to-market strategy and delivery method can be potential sources of untapped innovation. Snapfulfil is most often used in Level 2 and Level 3 warehouse operations.

**Strengths**

- Synergy Logistics has a radically unique business model. Its no-capital-expenditure, turnkey-
managed service deployment model combines software, RF hardware and implementation services in its subscription fees, and customers don't pay until they go live.

Snapfullfil offers an adaptable architecture with a robust rule engine and high levels of configurability to support a customer's specific requirements, and to enable the vendor's unique rapid implementation methodology. Currently, the vendor does all of the rule configuration for customers as part of the subscription.

The vendor also offers a notably unique seasonal pricing strategy that allows companies to flex their numbers of users based on seasonal demand variations.

Synergy Logistics' no-capital-expenditure delivery model motivates it to get the system to value realization as quickly as possible. Consequently, Snapfullfil implements rapidly with an average time across customers at around eight business weeks.

Synergy Logistics is motivated to provide high customer service to ensure that customers are eager to renew, since the annual renewal contract value is at the core of the vendor's business value proposition.

Cautions

Customers are dependent on the vendor for configuration and rule changes. This places a premium on consulting and support resources, which could be taxed if the vendor continues to grow rapidly. The company has a small number of employees (about 60).

While growing, the vendor has yet to establish a strong market position in North America (less than 30 customers), Western Europe or other international markets, and remains strongest in the U.K. (more than 40 customers). Resources are potentially the scarcest in North America until this business expands, although it did add five consulting resources in 2015. However, currently, Synergy has no definitive plans to expand into other geographies.

Snapfullfil is not a multitenant SaaS WMS; rather, it offers an on-demand, single instance per-tenant cloud delivery model. However, Gartner finds this delivery model to be preferable for customers that want the application tailored to their needs, which aligns well with the Snapfullfil delivery model.

Synergy Logistics is strongest for core WMS capabilities, with only some extended WMS capabilities.

The vendor has not articulated an SCE convergence vision or strategy, or an inclination to move in this direction.

Tecsys

Tecsys is a modest-size vendor of WMSs and companion SCE capabilities. It has been in business for 30 years, and has a large number of clients, the vast majority of which are in North America. It met most of the inclusion criteria for this Magic Quadrant, but not the criterion for international revenue. It did, however, qualify based on having a unique, compelling, and differentiated market position and focus in the healthcare industry.

Over the past several years, the vendor has adapted and formalized its strategy to pursue more-strategic initiatives with larger and more complex customers. Tecsys now offers highly differentiated solutions for healthcare and hospital integrated delivery networks (IDNs), as well as industrial and equipment dealers. It also has done well selling into government agencies. The vendor also is growing its business more rapidly in terms of the number of new deals, the sizes of the customers it works with and the scope of its WMS deals.

Although a Canada-based company, Tecsys' revenue is now split about 36-54 between Canada and the U.S., with U.S. revenue growth accelerating. The vendor also has a mix of SMB customers and large customers, with 49% categorized as midsize to large organizations. Tecsys has around 158 WMS customers and is most often used in Level 3 and low Level 4 warehouse operations, but can handle Level 1 and Level 2 operations — notably in healthcare environments.

Strengths

Tecsys has a broad suite of SCE capabilities, including core WMS and extended WMS, as well as many complementary capabilities.

The vendor offers very differentiated capabilities, domain expertise and customer experience in healthcare provider SCM, with more than 60% of its bookings now in that industry. It also is pursuing a notably unique vision for omnichannel concepts applied to pharmacy SCM. The core WMS requirements in these environments are not dramatically different from other industries; however, Tecsys has distinguished itself by adding specialized capabilities, such as integrating WMS upstream into hospitals for automatic replenishment.

In addition to healthcare, the vendor also has a strong vertical focus in industrial equipment dealers, where it provides things like point-of-sale capabilities to handle customer walk-up orders.

The vendor is an innovator and does a commendable job of commercializing its innovations intrinsically across its products, as well as specifically to its target vertical industries.

Customer references highlight the "quality of the people" and "expertise in their industry" as key distinguishing characteristics of the vendor.

For its size, Tecsys has developed a very well-considered and well-documented implementation methodology using its Supply Chain Modeling and Reference Tools (SMART), which are not only a methodology, but also best-practice blueprints for its major vertical industries, as well as a knowledge base for learning.

Cautions

Although Tecsys has a large number of clients, the bulk are small Canadian distributors. However, during the past several years, the vendor has begun to successfully pursue larger, more strategic
Magic Quadrant for Warehouse Management Systems

Tecsys is a small public company, which makes it a candidate for change of ownership. However, with the Brereton family's ownership of more than 40% of the outstanding common shares, this makes a hostile takeover unlikely.

Historically, the vendor has sold exclusively in North America; however, it is slowly expanding internationally — mostly through partnerships.

The vendor lacks international deployment resources, so users that are considering large, complex global deployments should pay particular attention to the implementation strategy.

The company is growing, and, given its size, it could have resource constraints in consulting and R&D.

The vendor's nascent low TCO initiative, while potentially beneficial to some clients, may not be appropriate for all. Prospective customers must evaluate the predefined business process models to determine whether they fit their requirements.

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.

This year's WMS Magic Quadrant focuses on global offerings. As such, we have strengthened the inclusion criteria for global revenue. In the past, a vendor only needed to say that it sold in multiple geographies. This year, vendors had to demonstrate that a reasonable percentage of their revenues (at least 10%) came from outside their home regions. As a result, we had to drop a number of vendors that offer quite strong WMSs, but whose businesses are principally in a single geography. This impacted a number of good WMS vendors based in Europe.

Added

Made4net

Dropped

Consafe Logistics — It did not meet our inclusion criteria for international revenue of 10% or more of revenue outside its home region.

Ehrhardt + Partner (E+P) — It did not meet our inclusion criteria for international revenue of 10% or more of revenue outside its home region.

International Business Systems (IBS) — It did not meet our inclusion criteria for international revenue of 10% or more of revenue outside its home region.

eBizNET Solutions — It was acquired by NetSuite, and did not meet several of our inclusion criteria.

Notable Mentions

A number of vendors with reasonably capable and, in some cases, strong WMSs did not qualify or meet the research timelines for this Magic Quadrant. However, this does not mean that these solutions might not be viable alternatives for some customers. To ensure that this research is consumable and understandable by our clients, we limit participation in this Magic Quadrant to vendors that demonstrate current strength in the market in severe current dimensions, including market momentum, geographical coverage, and product breadth and depth.

There are several reasons why a vendor might not have qualified. As stated in the qualification criteria outlined later in this Magic Quadrant, a vendor might not have the sales momentum, growth in revenue or international coverage necessary to qualify for this research. These reasons, alone, should not prohibit users from considering these vendors if, for example, they are strong in principally one geography — and if that criterion fits the needs of a given user. Furthermore, one of these vendors may have characteristics that make it more appealing than other vendors in the Magic Quadrant because of its strengths — regardless of the characteristics that might have excluded it from this research. For example, companies in France seeking a very strong presence in France, as well as company maturity, might favor Generix Group. A U.S.-based company seeking a strong SaaS WMS focused on multichannel retail might favor Deposco. Likewise, a company looking for a European-centric vendor with strong integration with materials-handling automation might find vendors like Consafe Logistics, E+P, Inconso or SSI Schaefer strong contenders; a North American company looking for the same might gravitate to Intelligrated.

Apptivity: Apptivity was founded in 1999, intending to exploit its expertise in SOA to build a suite of solutions across procurement, financial management, asset management and SCM. A WMS is part of its suite of offerings, but it is differentiated in that it's well-positioned in asset management, defense and related government logistics environments (although it is not limited to these). Apptivity's WMS covers core WMS capabilities with some extended WMS capabilities, like yard management. The vendor has notable customers in the military, government and large enterprise markets. It has a rapid implementation approach, and can be deployed on-premises or as a cloud offering. Apptivity is a suite provider; the WMS is not its sole focus. The vendor has the majority of its clients in the U.S., but has been extending its global reach.

Consafe Logistics: Consafe Logistics is part of the JCE Group, a privately owned international and diversified investment company, whose investment portfolio is divided into strategic and financial investments. All its long-term core holdings are classified as strategic investments. Consafe is its core logistics holding. Consafe Logistics has about 400 employees, and its WMS
offering, Astro WMS, represents about 50% of its business. Although it has around 400 total customers and implementations in 30 countries, the vendor focuses on, and the majority of its revenue (97%) come from, Europe, primarily Northern Europe with some growth in Eastern Europe. Consafe Logistics has a local market presence in Northern European markets, with implementation offices in Denmark, the Netherlands, Norway, Poland, Sweden and the U.K. The vendor has broad industry coverage in retail/Consumer goods, industrial, wholesale, food and beverage, and 3PL. Astro WMS is most often used in Level 3 and Level 4 warehouse operations, but scales to level 5 operations.

**Delmia Apriso:** Delmia Apriso, a Dassault Systèmes brand, is a manufacturing software provider that offers a suite of manufacturing capabilities that includes lightweight logistics execution capabilities for manufacturing-centric warehouse environments. Its primary focus is on manufacturing execution systems, but it has added warehouse management capabilities to address the unique challenges of manufacturing warehouses. While most WMSs focus primarily on customer order fulfillment, and manufacturing is an afterthought, Apriso focuses on synchronizing its WMS with the inbound and outbound materials flows required in manufacturing. Fulfillment-centric WMSs have often struggled with how to best manage the flow of materials from the receiving dock to the plant floor, with the back-and-forth movements from storage and the plant floor, nature of the change in state as materials are converted from raw materials to intermediates to finished goods. While the vendor’s WMS capabilities are not as broad or deep as WMS specialists, its focus is on addressing the above challenges. Apriso serves around 200 customers, not all of which use the WMS, in more than 45 countries across the Americas, Europe, Africa and Asia.

**Davanti Warehousing:** Davanti, headquartered in the Netherlands, concentrates in warehouse management offering two WMS solutions — MLS Premium, which focuses on large, complex and sophisticated warehouse environments, and Corax, which is its cloud/SaaS offering aimed at less-sophisticated and less-complex SMB warehouse environments. Both WMS systems offer capabilities that make them flexible, configurable and adaptable, which allows Davanti to sell to a variety of industries. Davanti has a good track record in implementing large, complex facilities, and has more recently moved into the SMB market with its cloud offering. Corax is evolving toward an enterprise cloud solution, and will eventually replace the MLS solution — becoming Davanti’s sole WMS. Corax will be a cloud-based (both public and private) solution that will also be able to run manual, as well as automated and mechanized, warehouses. Its focus has been, and primarily continues to be, in Europe, although it has implementations outside this geography. It plans to expand to North America and Australia. While offering solid WMS solutions, it did not qualify for inclusion based on its international go-to-market and customers, and its current customer growth rates.

**Deposco:** Based in Atlanta, Georgia, Deposco is a provider of cloud-based SaaS SCM solutions, with WMSs as its flagship offerings. Deposco is a small, innovative vendor with a growing number of North American WMS customers. It works with retailers, distributors and 3PL providers, and has some intriguing implementations in direct-to-consumer and multichannel environments. It offers low TCO due to its cloudization, and its adaptable architecture. Deposco's core WMS capabilities are best suited for minimally complex warehouse environments (that is, Level 2 or Level 3). They're also well-suited for e-commerce and multichannel fulfillment centers. Deposco did not qualify for this year's Magic Quadrant because all of its customers are in North America.

**Ehrhardt + Partner:** E+P, headquartered in Germany, is a well-established WMS provider that was founded as a family company in 1987. It has around 450 employees operating in seven locations, with most of its business (93%) historically in Europe (principally in Germany). However, more recently, it has begun expanding internationally into areas like Middle East/Africa, and Latin America. A recent acquisition will give it local representation in other parts of the world, such as the U.S., Russia, the U.K. and China. The vendor has about 480 customers, more than 320 of which are in Europe. E+P offers a strong, deep and mature WMS, with most implementations historically on the IBM i platform. However, over the past several years, E+P has started to do more implementations on Windows and Linux. The vendor's WMS covers core and extended capabilities, with some differentiated capabilities in resource planning, as well as a native WCS that now offers 3D graphical capabilities in the areas of simulation, emulation and visualization. E+P is unique among WMS providers, because it built and now operates its own automated warehouse, functioning as a 3PL for a customer near its headquarters. This has proven to be a valuable investment for the vendor, since it now has a test bed for innovation and training for its product and services, as well as providing a highly differentiated showcase for prospect companies considering E+P. The vendor is most often used in Level 4 and Level 5 warehouse operations, but can scale from high Level 3 to Level 5 operations.

**Generix Group:** Headquartered in France, Generix provides a portfolio of SCM solutions, such as transportation management and replenishment management, in addition to WMSs — the only offering in this research. It has several hundred WMS customers, the majority of which are in Europe (mostly in France). However, despite its strong European presence, Generix is not well-positioned internationally — notably in North America, which remains a major WMS marketplace.

**Intelligrated:** Intelligrated is a North American-based, single-source provider of intelligent automated materials-handling solutions offering comprehensive collection warehouse automation solutions that include automation equipment, software, services and support. The vendor says it "designs, manufactures, integrates and installs complete materials-handling automation solutions including conveyor, sortation, robotics, and automated storage and retrieval systems — all managed by advanced machine controls and software." Intelligrated provides WMS and warehouse execution systems, as well as labor management, BI and its own integrated voice offering. Intelligrated acquired WMS/WES software vendor Knighted in 2012, and subsequently acquired 3P Systems, a provider of voice-enabled solutions in 2013. Along with its Knighted acquisition, it also gained the rights to GoalPost, a labor management technology previously offered by Kurt Salmon.

**International Business Systems (IBS):** IBS focuses on developing and selling distribution
software, providing a broad portfolio of business applications for the wholesale, distribution and manufacturing markets. IBS was founded in 1978, and is now owned by Marlin Equity Partners. As part of its suite of applications, which include ERP and related end-to-end supply chain solutions, it provides WMS capabilities via IBS Dyanman, which can be implemented stand-alone or as part of its IBS Business Suite. Dyanman is well-suited for 3PL providers and wholesale distributors that need to do complex order management and fulfillment tasks, such as supporting customers with complex and specific fulfillment needs. IBS’ WMS customers have historically been focused in Europe, which comprises roughly 90% of its WMS customer base, but it is looking to expand geographically. IBS Dyanman is most often used in Level 2 and Level 3 warehouse operations.  

Inconso: A part of Korber AG, inconso AG is a Germany-based provider of WMS, as well as logistics software products and consulting services for its own WMS and SAP WMS. It was formed in 2002 as a management buyout from Heyde AG, and has grown over that time from about 180 employees to more than 500 employees today. It offers packaged software applications as well as a comprehensive portfolio of consulting and system integration services. The vendor provides a broad and deep Logistics Suite that includes two WMSs, transportation and a number of add-ons, or what Gartner refers to as extended WMS capabilities — such as yard management, visibility, slotting, resource planning and more. Its two WMSs serve the needs of the high end of the market with inconso WMS (Level 3 to Level 5 warehouse environments) and less-complex environments with its inconsoWMS S (Level 2 and low Level 3 warehouses). The vendor also leverages its deep logistics and warehousing domain expertise to provide service around SAP’s EWM and TM offerings.  

Micrologistics: Headquartered in Melbourne, Australia, Micrologistics is a small vendor that provides a robust WMS suite, Isis, across a variety of industry sectors. The vendor is a closely held and profitable private company of about 30 people, and has been in business since 1994. The founders have deep, long-term expertise in providing software and consulting services focused on logistics and warehouse management. Isis Micrologistics WMS is built on a strong and flexible technical platform, which covers core WMS capabilities, with some extended capabilities, notably a robust and configurable activity-based costing 3PL billing engine and BI/analytics tools. Micrologistics is growing and expanding internationally. It is currently one of the stronger WMS offerings focused in Asia and the Middle East, and is especially well-suited for 3PLs in these regions as well as 3PL and cold storage operations. Recently, Micrologistics opened a U.S. office, and has implemented customer sites in the U.S. and Canada.  

SSI Schaefer: SSI Schaefer, headquartered in Germany and part of the Schaefer Group, focuses on the design, development, manufacture, marketing, sale and implementation of materials-handling systems globally. SSI Schaefer has a total of about 9,000 employees across all its businesses, and 900 IT people focused on warehousing in its Intralogistics business. SSI Schaefer’s Intralogistics Business acts as a general contractor for warehouse solutions, supporting clients from small operations up to complex enterprise clients. It provides its own WMS, WAMAS, supported with a portfolio of consulting, implementation and system integration services. It also offers consulting services for SAP EWM. It can support Level 2 and Level 3 people-centric warehouses, as well as Level 4 and Level 5, offering a combined WMS and warehouse control solution.  

viastore systems: A North American WMS group headquartered in Grand Rapids, Michigan, viastore systems is primarily a manufacturer and integrator of materials-handling solutions, such as automated storage/retrieval systems (AS/RS) and conveyor systems that also offers its own WMS product. viastore systems’ strength is in automated (Level 5) warehouse operations, given its competencies in materials-handling automation, but its WMS is not limited to automated facilities. The vendor offers a select group of WMS providers that offers an integrated WMS and WCS, which is important in automated facilities and to multisite clients with some automated and nonautomated facilities. It has about 200 customers, with roughly one-third of the company’s overall revenue coming from software it first developed in the early 1990s.  

Inclusion and Exclusion Criteria  
To be included in the 2015 WMS Magic Quadrant, a vendor must have a credible WMS product that fundamentally supports core WMS capabilities and minimally supports some extended capabilities. The vendor must also exhibit a vision for WMS in at least moderately complex warehouse environments. Inclusion criteria for 2015 have changed notably: In addition to the other criteria a vendor must generate at least 10% of its revenue outside of its home geography. Additionally, a vendor can qualify if it has a demonstrably differentiated and unique focus and market position in a specific vertical industry. Vendors must meet the following criteria for inclusion:  

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  
- The vendor must have a three-year compound annual growth rate of at least 20%. This is because customer growth is a reliable indicator of vendor momentum and sustainability. Only license/subscription and services associated with the vendor’s packaged WMS implementations are considered. Revenue from hardware and/or ancillary consulting services are excluded.  
- The vendor must have at least 25 live customer references holistically using the version of the WMS solution being evaluated.  
- The vendor must have sold at least 10 net new customer in the previous 12 months.  
- Global Presence — The vendor must receive greater than 10% of its WMS revenue outside of its home geographical region (for example, North America, Europe, Asia or Latin America).  

Or — Significant Enterprise Software Presence — The vendor must be an enterprise application suite provider with greater than $500 million in enterprise applications 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 having at least 25 live WMS customers.

Or — Major SCM Suite Vendor — The vendor must be an SCM application suite provider with greater than $150 million in combined SCM revenue in the previous 12 months. This is because many customers with significant investments in SCM suites would like to evaluate the integrated WMS capabilities of their suite providers. The vendor must have sold at least 25 new named WMS customers in the past 12 months, as well as having at least 25 live WMS customers.

Or — 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 numbers of customers' criteria.

We have not included stand-alone specialist component providers of yard management, slotting, labor management; parcel manifesting, RF, voice, RFID or warehouse control systems (see "Warehousing and Fulfillment Application Vendor Guide"). We also do not cover materials-handling and engineering firms that focus primarily on building complex, customized and automated warehouses — regardless of whether they offer a packaged WMS application — because these firms do not typically offer their WMSs to the market independent of their materials-handling solutions. Furthermore, we do not evaluate specialized WCSs that are the middleware between the WMS business application and the materials-handling equipment (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 or suite vendor's WMS capabilities, even though these might be well-suited to a particular customer's WMS needs (see "Apply an Architectural Framework to Stratifying Warehouse Management Systems").

Evaluation Criteria

Ability to Execute

Although customer service and operations were important in previous editions of the WMS Magic Quadrant, they played an even stronger role this year. In talking with customers, Gartner found that a vendor’s ability to provide the services and support necessary to effectively implement and exploit the WMS is critically important and a notable differentiator between various WMS providers. Service and support contribute to implementation success and overall customer satisfaction, as well as impacting TCO. While historically, WMS vendors provided the majority of implementation services, certain, but not all, vendors are developing an ecosystem of implementation partners that can supplement or replace the vendor’s service capabilities. 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 remains important, customer service and operations have nearly an equivalent impact on a vendor’s overall ability to execute.

Product or 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"). Because of the intense transactional nature of warehousing systems, Gartner places a high value on an offering’s depth and breadth of functionality. 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 most focused on core WMS capabilities and might require less functional breadth. Thus, they could be supported by a wide variety of solutions. Finally, since WMSs have long been heavily modified, we place importance on the technical architectures of each WMS, especially noting a solution’s ability to adapt to change during the initial implementation, as well as over the life of the investment.

Overall Viability: There is considerable disparity in vendor size and the ability to deliver solutions on an ongoing basis. For this reason, Gartner places high importance on the overall viability of the business and the product. Vendor and product viability and risk remain important criteria. However, although viability is important, it should not overshadow product fit, vendor expertise, TCO, and service and support. Many of the vendors are quite small, and while there is 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 modest, but growing, differentiators in the WMS market, especially internationally in emerging geographies. Sales execution and pricing, although important to a company’s performance, don’t represent the same indicators of the Ability to Execute as they might in other markets. Therefore, this factor has been given a modest weighting. Pricing in the WMS market is increasingly consistent across deals depending on size but, to a large degree, arbitrary, based on the specific circumstances of an individual initiative. Price uncertainty has been exacerbated with the growth in cloud-based WMS, where subscription-based pricing models dominate. Because this is a global evaluation, the ability of a vendor to support global sales and go-to-market channels is becoming increasingly important. We consider vendor capabilities for supporting multinationals choosing global solutions, as well as customers buying in select geographies.
Marketing Responsiveness/Record: The WMS market continues to evolve rapidly, and WMS solutions must keep pace to remain relevant, which makes market responsiveness and track record important. We assess the historical and current performance of vendors to add to and enhance their WMS solutions to keep up with the changing wants and needs of WMS users.

Marketing Execution: While marketing promotion is important, we focus more on a vendor's product marketing, looking at the product management team, processes and product roadmap to support ongoing innovation, track record of delivering on plans, and whether the vendor has the ability to respond to market forces.

Customer Experience: A WMS vendor's ability to use and exploit functionality to drive business value and provide a good customer experience is a critical element of a provider's Ability to Execute. We consider a vendor's track record with complex and sophisticated customers, but also its ability to effectively service less demanding customers that make up a large percentage of the overall WMS market. Also critical is client satisfaction with a vendor's products as well as services, and how much warehousing experience the vendor has and how it can employ this to help customers fully exploit their WMS investments. Although client satisfaction is always important, we also consider the nature of the relationship that vendors establish with clients, and whether these are tactical or strategic. The size and the growth of a vendor's client bases locally and internationally are also very important because it demonstrates the vendor's ability to identify and satisfy the needs of customers around the world.

Operations: Operational competence is a very important criterion, and it considers a vendor's ability to meet its goals, obligations and commitments on an ongoing basis. There are marked differences in capabilities across vendors, as confirmed by customer references. Vendor support, maintenance, business and technical consulting, and field operations are important parts of the WMS selection process. Factors include the quality of the organizational structure, as well as 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 to help customers fully exploit their WMS investments, is critical to long-term success. Finally, a vendor's management structure, experience, skill and expertise play a significant role in a vendor's ability to harmonize its vision, strategy, tactics and actions.

### Table 1. Ability to Execute Evaluation Criteria

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product or Service</td>
<td>High</td>
</tr>
<tr>
<td>Overall Viability</td>
<td>High</td>
</tr>
<tr>
<td>Sales Execution/Pricing</td>
<td>Medium</td>
</tr>
<tr>
<td>Market Responsiveness/Record</td>
<td>Medium</td>
</tr>
<tr>
<td>Marketing Execution</td>
<td>Medium</td>
</tr>
<tr>
<td>Customer Experience</td>
<td>High</td>
</tr>
<tr>
<td>Operations</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: Gartner (January 2016)

Completeness of Vision

Although the WMS market is mature, we foresee considerable changes related to the technology, adaptability, usability, breadth of functionality and enhanced decision-support capabilities in areas such as user experience, performance management, event management, support for materials-handling automation, and work planning and optimization. The dramatic changes embodied in these market shifts will require considerable nimbleness and competency on the part of vendors. Therefore, in the Magic Quadrant we place strong emphasis on a vendor's understanding of these market dynamics and its product strategies to support these offerings. Exhibiting and articulating a vision for where WMS will be in the future, and exhibiting an innovative culture, remain distinguishing characteristics between vendors. Furthermore, since WMS is just one important part of integrated logistics, or what Gartner refers to as "SCE convergence," vendors are also evaluated on how well they understand this emerging concept and what strategies they have to move in this direction.

Market Understanding: 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 them 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.

While having a focus on 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.

Since all qualifying solutions in this Magic Quadrant for WMS handle basic core WMS, a distinguishing characteristic of vendors moving to the right will be the breadth of their WMS — what Gartner refers to as extended WMS. We place importance on the vendor’s current and planned support for WMS systems of innovation capabilities like value-added services.
and light manufacturing, labor management, slotting, yard management, dock scheduling automation interfaces, resource/work planning, SCE convergence, and enhanced user experience.

Vendors' domain expertise, technology vision and vision for the WMS of the future rank highly. We consider vendors’ knowledge and vision for warehousing and, more broadly, logistics management both locally and internationally. We also consider a vendor's vision for warehouse process innovation, not simply process execution, which means demonstrating a compelling vision for how warehousing, business and logistics trends will influence warehousing and WMSs in the future. For example, as concepts like multichannel commerce have rapidly emerged in retailing, some vendors have responded quickly to these needs, have established a leadership position and are poised to exploit these concepts in other industries.

While the emergence of new deployment models like cloud and multitenant SaaS had previously differentiated WMS vendors, the impact of deployment models has diminished as the majority of WMS vendors now offer some form of cloud strategy. There remains a debate between vendors whether multitenant SaaS is demonstrably better than dedicated cloud, but users tell Gartner they see pros and cons to each so they let their specific needs dictate which model is best for their business.

**Marketing Strategy and Sales Strategy:** Until recently, marketing strategy and sales strategy have had modest impacts on the WMS market, which had historically been dominated by specialist vendors focused on warehousing and logistics. Today, marketing and sales strategy is becoming more important, particularly as megasuite vendors become stronger WMS providers. We consider vendor strategies for establishing their WMS brand and how they develop strategies and tactics for local and international expansion.

**Offering (Product) Strategy:** Offering (product) strategy is critical, and it refers to a WMS provider's approach to product marketing, research and development, and solution delivery that emphasizes differentiation. We consider strategies for functionality, usability, technology, adaptability, delivery methodologies and feature sets as they map to current and future WMS requirements, market trends and technology evolutions. In addition, we consider a vendor's SCE convergence strategies for supporting end-to-end processes that span functional areas, such as order management, warehouse management, transportation, trade compliance, manufacturing or materials safety. A vendor's understanding of these market changes, and its product strategies for successfully navigating these changes, significantly influence a vendor's Completeness of Vision.

**Business Model:** A vendor's business model (that is, the soundness and logic of its underlying business propositions) is a key indicator of a vendor's sustainability and how its overall strategies and tactics might affect its ongoing success in WMS. 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, while the latter might allow a vendor to get to market faster but cause longer-term product issues.

**Vertical/Industry Strategy:** A vendor's vertical/industry strategy remains a relevant factor for determining how well an offering is aligned with where the market is going and how well-suited a particular solution is for specific industry requirements. This is because the industry is moving toward requiring more vertical-specific functionality, such as capabilities for apparel distribution for hung goods, expanded multitenant capabilities for 3PLs, forward and reverse logistics that are particular to retail and service parts supply chains, or how WMS can be used to support the inventory requirements in healthcare institutions. Vertical/industry strategies are important but not critical. However, this is changing and vertical/industry strategies are becoming more important. Most notably, a vendor's vision for global expansion and how it will address the nuances of key verticals will increasingly differentiate offerings in certain markets. We consider not only product functionality but also how vendors address industry verticals from a product management and go-to-market perspective.

**Innovation:** Innovation is a critical differentiator, and it is important for vendors to demonstrate the ability to support innovation by staying close to the most creative solutions or complicated problems in the market to drive pioneering functionality. Innovation is a critically important factor in the WMS industry, even though core warehousing best practices have been well-established. Innovation and thought leadership continue to play a strong role in this year's evaluations. Leading vendors continue to enhance core WMS with more investment in extended WMS, where a greater emphasis is placed on improving warehouse performance through decision support, analytics and optimization. Gartner continues to evaluate innovations in these practices. However, we also evaluate how a vendor is innovating with respect to SCE convergence, especially regarding the expanded role of integration and process orchestration with yard, dock, TMS and mobile assets, as well as vendor extensions into other SCE or SCP functional areas. Innovation is not exclusive to product functionality, and go-to-market and delivery originality are also notable sources of solution differentiation. Leaders and Visionaries will be the vendors on the forefront of change, while the majority of vendors will lag in adoption, often for years.

**Geographic Strategy:** 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, multicurrency and geocoding). This criterion also assesses vendors' abilities to support global warehousing requirements beyond core WMS functionality, as well as how the vendor plans to address the varying needs of WMS users around the world. Geographic strategy is also increasingly important for maintaining a strong presence throughout the global market, especially since market growth is expected to be greater in emerging international markets.
### Table 2. Completeness of Vision Evaluation Criteria

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Understanding</td>
<td>High</td>
</tr>
<tr>
<td>Marketing Strategy</td>
<td>Medium</td>
</tr>
<tr>
<td>Sales Strategy</td>
<td>Medium</td>
</tr>
<tr>
<td>Offering (Product) Strategy</td>
<td>High</td>
</tr>
<tr>
<td>Business Model</td>
<td>Medium</td>
</tr>
<tr>
<td>Vertical/Industry Strategy</td>
<td>Medium</td>
</tr>
<tr>
<td>Innovation</td>
<td>High</td>
</tr>
<tr>
<td>Geographic Strategy</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: Gartner (January 2016)

### Quadrant Descriptions

#### Leaders

Leaders combine the uppermost characteristics of vision and thought leadership with a sound ability to Execute. Leaders in the WMS market are present in a high percentage of WMS deals, and they win a significant number of them. 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 must invest in and have processes to exploit innovation. Leaders also have market momentum and strong client satisfaction — both in the vendor’s local markets as well as internationally. 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:**

- A reasonably broad and deep WMS offerings
- Proven success in moderate- to high-complexity warehouse environments
- Participation in a high percentage of new deals
- A strong and consistent track record
- Consistent performance and client growth and retention
- A proven ecosystem of partners
- Global scale

#### Challengers

The critical characteristic of the Challengers is that they have capable, proven and mature products, with numerous live customers. 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, they generally lack the overall thought leadership, innovation or compelling visions for next-generation WMSs that are exhibited by Leaders. These solutions are favored by buyers that prefer Ability to Execute over Completeness of Vision. Vendors can have practical visions for these solutions and, more generally, SCE, but vision and thought leadership are typically not on a par with solutions in the Leaders quadrant.

**Key Characteristics:**

- A capable, proven and mature WMS, with numerous live customers
- A consistent track record of successful implementation
- They often run some large and complex warehousing facilities
- Their offerings are not as broad or deep as WMS leaders
- They lack or fall in having a compelling SCE convergence strategy and capabilities
- They generally lack 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 robust and vibrant offering to the market. Visionaries are often thought leaders in one or more
WMS solution dimensions (for example, functionality, services, 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, such as in viability, global scale or operations. At a minimum, solutions in the Visionaries quadrant fall into one of two broad categories. They can be established WMS offerings 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 WMS products, services, or go-to-market and deployment strategies, but lack in other areas.

**Key Characteristics:**
- A coherent, compelling and innovative strategy that seeks to deliver a robust and vibrant offering to the market
- A thought leader in one or more WMS solution dimensions that tend to be on the leading edge of emerging concepts
- It has yet to demonstrate an ability to handle a broad range of complex user requirements
- It has execution gaps
- Innovation in WMS products, services, 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 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 ascend to a leadership position; it would also have to perform well in other dimensions. Although some vendors in the Niche Players quadrant often have solid WMS solutions for a specific industry or geography, they are not as broad as the WMS solutions in other quadrants, and they won’t likely evolve enough to comprehensively support SCE convergence.

**Key Characteristics:**
- It focuses primarily on a geography or vertical market
- It’s not a generally differentiated offering, although it can have some unique capabilities
- It is not a broad or deep WMS
- Its market momentum and product or company viability possibly in question
- It is lacking in SCE convergence

**Context**

During the past 18 months, Gartner has found 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, continue to be very important criteria, but they play less of a role in complex WMS engagements. However, they are becoming differentiating factors in less-demanding transactions. TCO considerations are key factors driving the rapid increase in interest for SaaS WMSs in low to moderately complex warehouses, where subscription pricing models reduce short-term costs.

Improving efficiency and productivity slightly bypassed cost containment as a dominant objective for supply chain organizations, with improving customer service also a very important priority. The increased emphasis on efficiency and productivity is evident in WMS upgrades and replacement engagements, since we find that customers are now focusing more attention on the value-adding capabilities that surround core WMS capabilities (see "Apply an Architectural Framework to Stratifying Warehouse Management Systems"), such as workforce management, task interleaving, slotting, yard management, dock scheduling and performance management. These have now become common requirements in all but the most simplistic WMS deals.

**WMS Vendor Landscape**

Vendor and product evaluations and rankings for this year’s WMS Magic Quadrant have changed dramatically from 2014, so readers should be cautious in comparing this Magic Quadrant to those of previous years. Most notably, inclusion criteria changed and requirements for international sales and revenue forced repositioning of some vendors that, in fact, did still qualify for the Magic Quadrant. However, more notably, a number of high-quality WMS offerings did not qualify because the vendor focuses principally, although not necessarily exclusively, in a single geography. Although the high-level criteria did not change, the subcriteria and scores did. Users should use this Magic Quadrant and Gartner’s other WMS research to help build an evaluation strategy specific to the needs of their companies.

**Several Factors Are Now Influencing the Global WMS Market**

The WMS market has historically been dominated by independent, specialist, WMS vendors, especially for more-complex and sophisticated warehouse environments. While high-end users will continue to gravitate toward ISV offerings, there are significant numbers of companies whose needs can be satisfied with less-leading-edge WMSs, which create new market opportunities for other WMS providers.

Gartner’s 2015 SCM user wants and needs survey found that 67% of respondents said that their companies were committed to a single ERP (megasuite vendor), and more than 50% of these companies said they favored their ERP provider’s SCM applications — unless these failed to meet their basic requirements. This trend is exhibited in the growth rates of ERP/WMS, which is the fastest growing segment of the WMS market in terms of net-new customers added year over year. The application megasuite vendors — Infor, Oracle and SAP — are using their global reach, large customer
bases, broad industry coverage and ability to continually invest in their SCE products to provide more-competitive SCE offerings, and to capture a disproportional percentage of new SCE business. During the next four years, this will result in the megasuite vendors capturing half of the SCE market in terms of the number of named SCE customers. Megasuite vendors are growing their numbers of new WMS customers faster than the market overall for several reasons:

These vendors now have good-enough WMSs for a large percentage of companies, even if they lack the overall depth or breadth of leading ISV WMS vendors.

Since international growth is accelerating, these vendors are well-positioned to exploit this growth.

Right or wrong, Gartner's study found that buyers favor integration almost as much as functionality, and if a WMS from their ERP providers address the majority of their needs, even if it is not considered by others to be the "best product," they will often favor this offering.

There is the belief that because of tight integration, the cost of ownership and ROI favors megasuite vendor offerings unless they fail to meet expectations.

In previous years, the most compelling issues that positioned vendors in the Leaders quadrant were the breadth and depth of their WMS offering, and the vendor and product's ability to handle the most complex warehouse operations. While this still remains valid for the most-sophisticated operations, we have witnessed a bifurcation in the WMS market between the "high performance" end of the market and the "mass market." Using cars as comparison, few would question that a Ferrari, BMW or Mercedes-Benz is a very-high-performance and technologically advance car. There is a very clear market for these cars where performance is critical and cost is less of an issue. At the same time, there is another very large market where other factors dominate, like reliability, service and support, good-enough features, and lower cost of ownership. This would be where cars like Toyota, Honda, GM or others are the appropriate alternatives. The same is true in the WMS space. There is a very large WMS market for what Gartner would call Level 2 and Level 3 warehouse environments (see "Apply an Architectural Framework to Stratifying Warehouse Management Systems"), that might be satisfied by a megasuite-vendor-provided WMS or a less-sophisticated ISV WMS offering. At the other extreme, there is also a healthy, although smaller, market for high-end WMS solutions aimed at complex and sophisticated Level 4 and Level 5 operations.

The WMS market in the established geographies of North America and Europe is largely a replacement market, with less than 20% of customer references for this Magic Quadrant saying they previously had no WMS. The top five drivers for a new WMS were:

1. A legacy WMS was technically obsolete
2. The company needed new functionality not offered in its legacy WMS
3. The customer identified financial benefits from a new WMS
4. The company's business had changed, and the legacy WMS no longer fit the company's needs
5. The legacy WMS was not flexible enough to adapt to the current needs of the business

Although functionality remains at the top of the list of user evaluation criteria, there's near-functional parity for core WMS capabilities across WMS providers. Given the mature state of the WMS marketplace, it is a combination of the following topics that influence the position of vendors in this year's WMS Magic Quadrant:

- The vendor's vision for next-generation WMSs and SCE, and a proven track record of commercializing innovations
- The adaptability of the WMS technical architecture
- Vendor commercialization of innovations
- Integration with other applications and support for cross-functional process orchestration
- Deployment model options, such as traditional on-premises licensed software, private or dedicated cloud, or multitenant SaaS
- Vendor and/or ecosystem domain expertise in translating business goals and objectives into specific WMS functional requirements
- The ability of new investments to deliver enhanced business value through the use of innovative capabilities
- The vendor's ability to sell, implement and support global deployments
- The vendor's openness to, and support of, an ecosystem of partners
- The long-term viability of the vendor and product, which is particularly important given the long life span of WMS implementations
- SCE as a platform, or what Gartner refers to as SCE convergence (see "Unify End-to-End Logistics Processes With Supply Chain Execution Convergence")

We also found that these factors influenced vendor positioning in this year's WMS Magic Quadrant:

The marketplace for WMSs is becoming more global, with more Gartner WMS inquiries coming from emerging markets. Consequently, for this Magic Quadrant, we had more-stringent inclusion criteria related to a vendor's global presence, and this also affected the inclusion and positioning of vendors.

Business and product viability, which is always a concern for buyers, has increased in importance, given the higher concern for risk and the longevity of investments. This affects smaller vendors that might have robust WMS products, but a current size that influences their viability rating.

We also continue to place strong emphasis on innovation and thought leadership. Several vendors again moved to the left based on this increased emphasis. Furthermore, since SCE convergence is a compelling next-generation best practice, this weighed heavily as well. However, these changes do not mean that vendor capabilities necessarily deteriorated from previous years — rather, how
ISV WMS vendors continue to dominate the largest and most complex warehouse environments due to their breadth and depth of their current applications, their thought leadership and their position as the vendors that others look to emulate. They have moved beyond basic WMSs, expanding their portfolios vertically and horizontally. In this Magic Quadrant, Manhattan Associates and JDA remain in the Leaders quadrant largely due to their experience serving these large complex users with broad and deep WMSs. These solutions have been implemented in some of the most complex warehouse environments. Moreover, the 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.

Megasuite vendor WMSs (that is, Infor, Oracle and SAP) continue to evolve, with vendors adding depth to their core WMS capabilities, as well as some extended WMS capabilities. Although these solutions have yet to match the overall depth and breadth of Manhattan or JDA, they have become viable alternatives for existing customers of the megasuite vendor looking for good-enough WMS ISV capabilities. Oracle and SAP have crept into the Leaders quadrant this year largely on the strength of their market growth, their ability to serve global customers, their innovation in areas surrounding WMS (such as enhanced user experience, technical architecture, advanced big data analytics and mobility), compelling SCE convergence strategies and overall market acceptance.

The Visionaries quadrant is populated with several vendors solidifying their position as thought leaders, while maintaining their ability to execute. Many of them exhibit innovative solutions, deployment models or go-to-market strategies. Vendors in this quadrant while innovative and offering intriguing solutions, have yet to solidify their long-term viability and go-to-market position. Sopheon, although it’s small, is an innovator, leveraging a strong SOA platform to challenge the traditional WMS vendors, and extending WMS concepts into very unique markets such as digital product logistics. Tecsys continues to exploit its expertise in healthcare, government and other industry-specific warehouse environments. Logfire is proving that SaaS WMS is a viable platform for established WMS markets, but, more importantly, it is demonstrating that it is a strong option in emerging markets, like Latin America, where rapid implementation, low TCO and platform support are critical considerations.

Several vendors are positioned in the Niche Players and Challengers quadrants. Niche Player solutions are often functionally sufficient or, in some cases, excellent choices for many companies. However, these offerings might lack the global scale, experience, number of clients, customer references or business viability of the leading vendors in the market. This is not to say, however, they are not viable or preferable for many WMS buyers.

Vendors in the Challengers quadrant are mature, functionally solid and proven, with strong track records of customer adoption and successful deployments. Their solutions typically 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 the specific solution is not at the forefront of innovation. The vendor is not typically a WMS thought leader, or the early provider of innovations leadership.

Market Overview

The core WMS market is mature, dating back more than 30 years to when commercially packaged WMSs first emerged. From its inception, core WMS functionality — that is, receiving, put-away, inventory management, physical inventory/cycle counting, rule-based locator, picking, replenishment, packing and shipping — has remained fundamentally the same, although there have been and continue to be notable improvements in the depth, number of options and flexibility of these capabilities. When we say that the WMS market is mature, with near parity in basic core WMS capabilities across product offerings, this is analogous to saying that all cars have four wheels, an engine, a transmission and a steering wheel. Indeed, most WMSs cover the most basic capabilities, but notable differences remain in core capabilities, just as there are differences among cars in their engines and transmissions.

WMS innovation hasn’t stopped, however. Leading WMS vendors continue to enhance and extend core capabilities, as well as expand the breadth of their application footprints. They now provide more value-added capabilities surrounding the core WMS, or what Gartner calls “extended WMS” (see “Consider These Critical Issues When Evaluating Warehouse Management Systems”). Furthermore, the recent focus has been on enhancing the technical architectures. Some vendors have upgraded to model-driven architectures that enable more user adaptability of the WMS during and after implementation. Additionally, cloud and SaaS delivery models have recently become more viable deployment options.

Today, the WMS market is heavily weighted toward midsize to large warehouse operators in North America and Western Europe, with these regions representing 79% of WMS licenses and maintenance revenue, and 54% and 25% of market revenue, respectively. However, projected new license growth rates through 2020 are expected to be higher for emerging markets than for established markets.
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