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Magic Quadrant for Transportation Management Systems

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Securing capacity and improving freight efficiency are strong motivations for investing in a TMS, but the business case remains driven largely by reducing freight costs. Heads of logistics, transportation and supply chain management IT should use this research to understand the TMS marketplace.

Market Definition/Description

Multimodal transportation management systems (TMSs) are a subset of the global TMS market and generically refer to the category of software that deals with the planning and execution of the physical movement of goods across the supply chain (see "Gartner's Model for Holistic Multimodal Transportation Management Suites"). The TMS Magic Quadrant focuses on holistic multimodal TMS for use by shippers or non-asset-based, third-party logistics (3PL) organizations. The primary emphasis is on systems that support for-hire transportation management operations, whereby users utilize a variety of shipping modes, including over the road, private/dedicated fleet, small package, rail, intermodal, air and ocean. At a minimum, shipper companies use TMSs to manage freight sourcing, planning, execution and settlement. Multiple subcomponents make up a comprehensive TMS across planning (for example, load consolidation, routing, mode selection and carrier selection) and execution (for example, tendering loads to carriers, shipment track and trace, and freight audit and payment).

TMS suites have been extended to include all transportation management functions across multiple modes — from strategic planning, strategic freight sourcing and procurement, through visibility and performance management, to freight payment and audit capabilities. In addition to functional expansion, TMS solution providers have expanded the number of modes they support, adding deeper support for modes such as small package or parcel shipping, private fleet planning and execution, intermodal, and rail. With the expansion of global supply chains, TMSs also embrace global logistics functions and features.

This research covers multiple TMS delivery and implementation approaches, including on-premises, hosted, on-demand cloud/SaaS and TMS-managed services, which are all subject to the specified inclusion criteria (see the Inclusion and Exclusion Criteria section). In the past year, we have seen accelerated growth in the cloud TMS offerings, both from historical on-premises vendors and specialist vendors. Part of that growth is coming from the small and midsize business (SMB)

segment of the market that has in the past seen low penetration rates for these types of holistic TMS solutions.

This research focuses on non-asset-based shipping enterprises (shippers or 3PL companies), but it does include shippers that support for-hire and private fleet transportation. It does not focus on specialized solutions targeted only at private fleets or stand-alone parcel shipping. Enterprises that are focused exclusively on asset-based transportation capabilities, such as owned fleets, require additional functionality (for example, capacity planning and yield management), which is not the focus of this research. However, fleet is considered under the TMS vendor's ability to support multiple modes, which include fleet, road, rail and others. Additionally, although parcel labeling and manifesting solutions can be included in a multimodal TMS, stand-alone parcel manifesting solutions are not included in this research.

Multiple subcomponents make up comprehensive multimodal TMS solutions. In this Magic Quadrant, we evaluate the vendors' offerings, considering all of the following product capabilities:

- **General**
  - Inbound, intercompany and outbound freight
  - Globalization for international deployment (language, currency, local rules and geographic data)
  - Technology architecture, adaptability, flexibility, usability and deployment options
- **Rate and contract management**
  - Freight sourcing and bid optimization
  - Freight rating and contract management
- **Tactical planning**
  - Tactical planning (forward-looking scenario analysis and planning)
- **Operational planning**
  - Operational transportation planning and optimization
  - Carrier assignment optimization and collaboration opportunity management
  - Rail and intermodal shipment planning and execution
  - Multileg/multimodal international planning and execution
  - Multicarrier parcel shipping
  - 3D load design/building
- **Fleet routing and dispatching**
  - Asset- or fleet-based routing, scheduling and dispatching
- **Execution**

  - Transportation execution and carrier communication/collaboration
- **Settlement**
  - Freight audit, payment and settlement
- **Other**
  - Carrier appointment management/dock scheduling
  - Trading partner (carrier, supplier and customer) network/community management
  - Logistics order and shipment visibility and event management
  - Analytics, performance management, scorecards and management dashboards

Market Size and Vendors

The global TMS market was valued at $1,232.02 million in 2014 and is expected to reach $1,723.87 million by 2019, growing at a compound annual growth rate (CAGR) of 6.95%. Factors such as the need to reduce costs and improve productivity and efficiency are driving the growth of the market. From 2014 to 2019, North America is expected to lead the global TMS market, followed by EMEA. The market share of North America was 53.28% in 2014 and is expected to decline to 48.89% by 2019 (this is due to the increased growth in Asia). In 2014, EMEA had a market share of 34.14%, which is staying fairly stable. APAC is expected to witness the highest growth in its market share, from 9% in 2014 to 12.39% in 2019, according to Technavio.

The overall TMS market covered in this research breaks down into four types of vendors:

- **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]). Oracle and SAP are considered megasuite vendors with TMS 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 JDA Software and Manhattan Associates.
- **Specialist TMS vendors:** These vendors are independent software vendors (ISVs) that focus primarily or exclusively on holistic TMS, although they might offer some additional capabilities. Vendors in this category include inet, Kewill, LeanLogistics and MercuryGate International.
- **TMS services vendors:** These vendors offer not only the TMS technology but also provide the services to run the day-to-day transportation management while the shipper maintains and controls key relationships with its carriers and customers. Some specialist vendors also offer this service but are still primarily technology vendors. Vendors in this category include C.H. Robinson (TMC) and Transplace.

Gartner's Viewpoint of the TMS Market

All solutions in the TMS Magic Quadrant support the core elements (see the Inclusion and Exclusion Criteria section) for a TMS. Functionality is just one of the many criteria on which we evaluate the vendor. All of the vendors on the MQ have continued to reinvest substantially into R&D to provide additional capabilities. There are, however, additional considerations that influence the positioning of TMS providers. Some of these considerations have evolved in the past year.

Supply Chain Execution (SCE) Convergence

A compelling trend in logistics management is a concept that Gartner calls "supply chain execution convergence," which refers to the need for supply chain organizations to better orchestrate and synchronize processes across functional domains (see "Supply Chain Execution Convergence: Delivering on the End-to-End Process Promise"). More precisely, leading supply chain organizations want to orchestrate end-to-end processes, such as order to cash, that span traditional functional boundaries, including warehousing, transportation, manufacturing or global trade management.

Because end-to-end process orchestration is so fundamental to further promoting logistics maturity (see "Apply the Five-Stage Maturity Model to Drive Logistics Excellence Within the Supply Chain"), we have made SCE convergence a central tenet of the TMS market evaluation. Given the effect convergence is having on the SCE application landscape, we have made it an important component within the Completeness of Vision dimension of this Magic Quadrant. To be a Leader or a Visionary, a vendor must have a noteworthy SCE convergence vision and strategy. While a vendor's SCE convergence strategy impacts its position in this Magic Quadrant, its SCE convergence strategy might have little relevance for companies that are narrowly focusing on transportation alone.

Warehousing and transportation are notable points of convergence, but they're not the only ones. SCE convergence or logistics as a platform — in which multiple SCE functions are built on a common technical architecture that shares a UI, data model and business logic — is obtainable from only a small number of TMS vendors today. This select list of TMS vendors has strong application platforms, some existing converged capabilities and broad visions for SCE convergence. They enable the assembly of end-to-end processes by connecting processes and services that span a variety of previously independent functional areas.

Key issues distinguishing vendors on the right side of the Magic Quadrant from those on the left side are the vendor's strategy and its ability to support SCE convergence. Currently Oracle, SAP, JDA Software and Manhattan Associates have the most compelling SCE convergence visions and capabilities beyond core TMS.

Globalization

Gartner notices several trends that affect the globalization of transportation. First, we see many of the larger, more mature shippers forming international and even global transportation functions in their companies. This creates a need for a TMS that can provide capabilities on an international scale. Second, Gartner finds TMS demand growth internationally, especially in the emerging geographies of Asia. We notice that several vendors expanded their ability to enable widespread regional and global product rollouts supported by globally available customer service. This

capability 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.

Deployment Model

In previous years, cloud and SaaS were notable distinguishing characteristics among vendor offerings. Initially, newer vendors supported these emerging delivery options while the more established vendors were primarily focused on on-premises offerings. However, in the last few years, 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 TMS and those offering dedicated cloud TMS (that is, a single instance of the TMS hosted in the cloud supporting an individual company).

SMB TMS

Gartner sees two emerging growth markets for TMS. First, we notice international growth in Asia, especially China, as well as more companies globalizing transportation and needing a global TMS. Second, we see growing demand in smaller organizations with less complex transportation management needs. Traditionally, we have seen vendors that focus on the large, very complex shippers and 3PLs, and vendors that focus on the smaller, less complex shippers and 3PLs. We notice several newer vendors that have the ability of serving both small and larger customers. SMBs have specific needs where functionality isn't always the top priority, but cost and speed of implementation play a larger role.

Implementation

Traditionally, the implementation of a TMS solution was a long and complex project. Shippers' and 3PL providers' expectations around the implementation have changed dramatically. They require these solutions to be implemented in a much shorter time frame (weeks instead of months), at a much lower cost, and provide a much faster ROI. As vendors continue to mature their product as well as their cloud deployment offering, they have templatized their solution implementation, dramatically increasing the implementation timelines. Over the past year, Gartner has seen several implementations that were accomplished in six to eight weeks, where traditionally these would have taken six months or more.

Key Criteria for 2016 TMS Magic Quadrant

All solutions in the TMS Magic Quadrant support basic Level 3 (see Note 1) transportation operations (see "Apply an Architectural Framework to Stratify Holistic Multimodal Transportation Suites") for over-the-road transportation. Distinguishing characteristics will be:

- Breadth of the TMS (not just planning, execution and settlement, but also system-of-innovation capabilities, such as tactical planning, fleet management, multicarrier parcel management, 3D load design and SCE convergence).

- Depth of the TMS, as demonstrated by live references in Level 3 and above transportation environments, holistically using the breadth of the vendor's TMS application. Particular emphasis is placed on the ability of vendors to handle the most complex planning scenarios because this ability distinguishes the offerings at the highest level of requirements.
- Usability and adaptability, with particular emphasis on a vendor's current and future UI strategies.
- Global go-to-market strategy and offering, with strong emphasis on a vendor's strength in the largest current TMS markets of North America and Europe and, to a lesser extent, Asia.
- Partner ecosystem and project/implementation consulting capacity and quality.
- Vision, thought leadership, roadmap and track record beyond basic over-the-road multimodal TMS.
- A compelling SCE convergence strategy — that is, both the breadth of TMS and the ability to support end-to-end business processes through an SCE platform.

Several TMS vendors did not meet Gartner's inclusion criteria for this year's TMS Magic Quadrant. While these vendors did not qualify for this research, they may well offer a TMS solution that would be well-suited to the needs of a specific company. This year, no vendors were dropped from the Magic Quadrant. One vendor, Kewill, who acquired the IBM Sterling TMS, was added to the Magic Quadrant. In last year's TMS MQ, neither Kewill nor IBM Sterling Commerce qualified; however, after the acquisition was finalized, Kewill did make the qualification criteria.

There are a number of emerging vendors, such as 3Gtms, BestTransport, Cloud Logistics, Transporeon and ProcessWeaver. They have yet to meet the inclusion criteria, even though their solutions are gaining traction in the market. Because the Magic Quadrant is a market evaluation, vendors are positioned relative to each other. As such, if vendors are added or dropped from the Magic Quadrant, the specific positions of certain vendors can change, even though there has not been a fundamental change in the vendors' offerings.

TMS solutions break down into four deployment categories:

- Traditional, primarily on-premises applications with the potential for dedicated cloud hosting from vendors such as JDA Software, Manhattan Associates and SAP.
- SaaS-only TMS (public cloud) from vendors such as inet, LeanLogistics and several notable mentions.
- Cloud and on-premises versions of vendor solutions from vendors such as Oracle and MercuryGate International.
- People-based operational services in addition to managed service providers' software, from managed service providers such as C.H. Robinson (TMC), Transplace and LeanLogistics. However, for these vendors to be included, they must have built their own TMS application, and they must offer their TMS to customers for traditional, self-service software usage as well as managed services. Pure managed service providers, while having strong TMS offerings, are not

considered Leaders because they are not pure-play technology providers, and they do not have broad SCE convergence strategies.

Magic Quadrant

Figure 1. Magic Quadrant for Transportation Management Systems

Source: Gartner (March 2016)

Vendor Strengths and Cautions

C.H. Robinson (TMC)

C.H. Robinson (CHR), based in Eden Prairie, Minnesota, is one of the largest global 3PL companies, and it is best-known for its freight brokerage services. It has expanded its offerings to include TMS as a managed service (Managed TMS) since 1999, leveraging the technology it uses for its own operations as well as TMS plus managed services. TMC, a division of CHR, is a separate business that deploys Managed TMS and benefits from CHR's deep transportation domain expertise and applied transportation management technologies, as well as the ability to plug into its very large carrier network. CHR continues to invest in Managed TMS by offering added functionality and creating innovation by collaborating with multiple universities including Massachusetts Institute of Technology (MIT), University of Tennessee and others. Managed TMS has broad industry coverage, but it has the greatest percentage of its customers in automotive, consumer goods, retail, food and related industries. TMC is most often used in up to Level 3 transportation operations, but it might scale to Levels 4 and 5 operations. TMC focuses on midsize to large shippers. In 2015, C.H. Robinson introduced Freightview, a neutral, multitenant, cloud-based TMS software platform designed for SMBs. With Freightview, C.H. Robinson has been able to reach yet another segment of TMS customers with small shippers that have simpler transportation needs and a need for a cloud-based solution that can be implemented quickly.

Strengths

- TMC offers Managed TMS as a service that supplements cloud TMS technology with people-based operational services geared toward the needs of a specific client. Managed TMS is staffed and operated on behalf of clients that need additional domain expertise and transportation skills.
- Managed TMS benefits from the size, global reach, and breadth and depth of expertise of the overall CHR organization, with particular advantages in its sales, consulting and R&D resource capacity. CHR uses the same TMS internally, which is functionally broad and deep.
- CHR has a very large carrier network, with 30,000 carriers on the network for Managed TMS, but it can access its brokerage network of 66,000 carriers when needed, including all notable air and ocean carriers (80% of the surface carriers are in the U.S.).
- CHR has compelling capabilities to support global freight operations, with control towers in North America, Europe, Asia/Pacific and the rest of the world. While TMC continues to grow its customer base in Asia and Europe, the majority of the vendor's customers are in North America today.
- The vendor has the expertise and tools to accelerate implementation of inbound and reverse logistics programs.

Cautions

- Managed TMS is not a pure-play technology investment; it is primarily a managed service in which prospective users must fully understand the allocations of costs between technology and value-added services — including potential cost reduction of less internal full-time equivalent (FTE) head count — by CHR staff.
- Managed TMS uses a third-party optimization engine within proprietary planning tools.
- Prospective users should view Managed TMS as a long-term commitment to a managed service because, today, a low percentage (less than 10%) of Managed TMS customers are self-service. Customers don't tend to convert from managed service to pure SaaS TMS (unless Managed TMS is only used for a specific division or for a predetermined amount of time).
- Prospective users considering Managed TMS versus pure technology offerings must be diligent in analyzing pricing. The pricing approach for Managed TMS is based on several components that make up the overall price, including dedicated resources, shared resources, technology and profit.
- TMC is a small business within CHR, and — while TMS technology is core to CHR's primary business — selling, implementing and maintaining customer-operated TMS technology are not the parent's primary focus.

inet

Headquartered in Dornbirn, Austria, inet is a prominent Europe-based and focused TMS provider. Inet offers a multitenant SaaS solution that is designed to address the specific needs of European transportation. The vendor is steadily growing in Europe and has expanded its footprint to Asia, the U.S. and other parts of the world. Inet offers a broad portfolio of transportation capabilities, with a strong focus on international multimodal logistics, in addition to strong competency in the intricacies of international logistics, especially between Europe and Asia/Pacific today. Inet is used mostly in the CPG, automotive, pharmaceuticals and chemicals, and LSP industries, and for Level 3 to Level 5 European or Asia/Pacific transportation operations. It requires a partner solution provided by 4flow to address the advanced optimization needs at this strata of operation. Inet's cloud-based solution is also being used by the smaller segment of SMB shippers. Inet has been successful in expanding its operations in China.

Strengths

- The vendor has a strong offering and domain expertise in European transportation management, which has unique differences from North America. In 2015, it established an office in the U.S. to support the North American market.
- Several customer references noted the vendor's focus, experience and capabilities in the automotive market, particularly its capabilities for managing inbound freight management. Multiple customer references also called out the vendor's ability to meet tight implementation timelines as a strength.

- The vendor is best-suited to large complex and sophisticated transportation operations, and it offers broad TMS functionality across execution, control and performance management. It has a core strength in international, multimodal, multileg, for-hire transportation capabilities across over the road, intermodal, ocean and parcel.
- The multitenant nature of inet's platform allows for collaboration between shippers, and several companies in Europe have started collaboration projects to make more efficient use of the tight carrier capacity.
- The vendor offers a preonboarded network of more than 9,000 carriers, including direct integration for European rail carriers. It also has preintegrated its solution with key freight networks, such as Inttra and GT Nexus for ocean, and Champ Cargosystems for air freight.

Cautions

- Inet is a smaller, growing vendor with about 150 employees. Its growth is mainly driven by consulting partners, such as 4flow, BearingPoint, SupplyOn, MIC and West Monroe Partners.
- The vendor partners with 4flow for transportation planning and optimization, as well as implementation consulting. 4flow is also headquartered in Europe, with offices in China and the U.S. While it offers a powerful optimization engine, 4flow is also a small vendor, a fact that should be addressed in agreements.
- Although inet has a strong position in Europe, it is still in an expansion phase in other parts of the world. In the U.S., inet only recently opened an office so they can support U.S. implementations.
- Together with the local inet implementation/support operations, inet is also working on expanding its consulting partner network as well as the carrier networks in those newer geographies.

JDA Software

Although Scottsdale, Arizona-based JDA Software, through its numerous acquisitions, had multiple TMS solutions in its portfolio, it selected the former i2 Technologies' TMS as its go-forward TMS platform. It has moved some functionality from the previous TMSs onto this platform, which it refers to as a converged solution. Although JDA intends to continue to support its various TMSs for some time, it will no longer sell the Manugistics or RedPrairie TMSs to new clients, and, over time, existing clients will be encouraged to move to JDA's go-forward TMS platform. JDA TMS is most often used in Level 4 and Level 5 transportation operations. JDA has a clear strategy to focus on larger shippers, with over half of its customers having a freight spend larger than $250 million. JDA continues to offer its solution on-premises but also offers single and multitenant cloud as an option. JDA is strong in SCE convergence. It provides not only cross-functional visibility, but also the enablement of incremental and iterative planning considering the constraints of warehouse management systems (WMSs) and TMSs.

Strengths

- The JDA TMS is a differentiated TMS, with the breadth, depth and adaptability demanded by complex and sophisticated TMS users. Some of the largest and most complex TMS operations use JDA's TMS.
- Both tactical and operational planning and optimization are its core competencies, and its TMS continues to have one of the most sophisticated planning engines.
- JDA's TMS is a true global offering for companies considering a global TMS implementation. It supports dynamic, optimized, multileg routing versus the more typical, itinerary-based approaches of many other TMSs.
- JDA is a TMS innovator, enhancing its offering with features such as network design, 3D load design, and tactical and strategic transportation planning. It continues to add notable functionality, such as optimized appointment scheduling, dynamic order splitting and iterative replanning.
- JDA has spent a lot of effort over the last year on templatizing the implementation as well as improving the UI via Smartbench.

Cautions

- Ninety-five percent of JDA's TMS customers are large, complex shippers or 3PL companies with annual freight spending of greater than $100 million. It might not be suitable for transportation operations that are below Level 4.
- The vendor's TMS remains complex, mainly because of the sophistication of the planning engine. This further makes its TMS best-suited for sophisticated and complex shippers and 3PL companies.
- Community management (that is, carrier preonboarding and maintenance) remains primarily a customer-project-driven activity. Its packaged carrier and trading partner network is not as comprehensive as some SaaS-only TMSs.
- Total cost of ownership (TCO) remains high compared with many other offerings, although JDA's TMS is competitive at the high end of the market.
- Manugistics and RedPrairie TMS users should start developing migration strategies to accommodate a platform change within the next five years.

Kewill

Kewill, headquartered in Chelmsford, Massachusetts, has long focused on various aspects of transportation management. It built a portfolio of solutions, under the name Kewill Move, that cover multicarrier parcel management, trade compliance, carrier-centric TMS and shipment visibility. The acquisition in 2014 of the IBM Sterling TMS provided Kewill with a more mature, broader and deeper multimodal TMS as well as a strong North American carrier network that is called Kewill Transport. Kewill Move multicarrier parcel solutions have been market leaders for many years and

continue to be the leading solutions for parcel. Kewill offers a global transportation solution for shipper and logistics service providers. It has a strong presence in retail, CPG, manufacturing, food and beverage, life sciences/pharmaceuticals, and freight forwarder industries. The Kewill Move solution best suits midsize shippers with less than $100 million in annual freight spending. Kewill is most often used in up to Level 3 transportation operations.

Strengths

- Kewill has a strong carrier network, especially in the U.S. Kewill Move currently has over 16,000 active carriers in its carrier network for TL, LTL, intermodal, ocean, rail, parcel, air freight, and barge.
- The Kewill Move solution has a high level of flexibility and provides ease of configuration. The solution can easily be configured to support customers in many different industries and the customer's specific business constraints and processes.
- Kewill has one of the largest customer bases across all modes of transportation for both shippers and logistics service providers spread out across many industries and many countries.
- The Kewill Move cloud platform provides its customers with network benchmarks as well as access to Capacity Center to gain a holistic view of available capacity from the network (spot-market type approach).
- The solution includes very strong parcel capability with built-in global rates for over 20 parcel carriers.

Cautions

- Kewill is still working on bringing all components of its solution on the same technical platform. Different customers might, therefore, have different experiences with the solution. Kewill is also working on refreshing the UI.
- The solution, customer base and carrier network for the Kewill Transport solution in Europe is fairly modest compared to the North American offering, and is more geared toward carriers and freight forwarders. Kewill is working on product enhancements to better suit the European market, including language translations.
- Some customers that came from IBM Sterling Commerce mentioned experiencing some challenges when transitioning to Kewill's SaaS platform as well as issues with the solution performance on Kewill's platform. Kewill continues to invest heavily in cloud infrastructure to support its growing customer base after extracting the solution from IBM's infrastructure.

LeanLogistics

LeanLogistics, based in Holland, Michigan, is a provider of single-instance, multitenant SaaS TMS solutions and managed TMS services. It is owned by Brambles, a large, financially strong Australia-headquartered organization with global operations. LeanLogistics is best positioned to exploit TMS growth in the Levels 2 and 3 shipper market. A high percentage of its customers are within the CPG, food and beverage, retail/wholesale, and manufacturing industries in the U.S., but it is not limited to

these market segments. LeanLogistics is most often used in up to Level 3 transportation operations, with particular strength in North American Level 3 shippers, given its over-the-road carrier network. Although a large portion of its customer base is made of small to midsize shippers, LeanLogistics also serves a growing number of large shippers.

Strengths

- LeanLogistics offers a robust and stable SaaS TMS that addresses basic core multimodal TMS requirements (planning, execution, visibility, and freight audit and payment) with a large carrier network (12,000 North American carriers). The vendor also has fleet planning and execution within its core TMS.
- LeanLogistics has introduced a group of self-service capabilities, including freight sourcing, called LeanSource, which is a Web application that enables shippers to manage the entire RFP process over the Internet to solicit and develop contracts for carrier rates and capacity by lane.
- The vendor was one of the first to exploit the data it captures through managing a SaaS TMS. It offers benchmarking data, called LeanDex, to shippers and carriers that want to compare their lane-by-lane activities against a normalized index of data across the network, processing over $10 billion in global transportation spend.
- LeanLogistics continues innovation with several new offerings — LeanGlobal, LeanTMS Mobile, LeanFleet and other modules — available. Several other modules, such as LeanParcel, will go live later in 2016.
- Customer satisfaction and retention is strong, and customer references cite the vendor's transportation domain expertise as well as its TMS as key reasons for choosing LeanLogistics.

Cautions

- LeanLogistics' TMS lacks the overall breadth (parcel execution/manifesting, 3D load design and railcar management), depth and geographical scope of the leading TMS solutions. It is working on closing some of those gaps through additional development that is underway.
- Some customer references expressed a desire for better support for LTL and an increased footprint in Europe.
- The vendor's TMS is best-suited for midsize Levels 2 and 3 shippers from a breadth and depth perspective. The company remains focused on developing capabilities to help it better serve enterprise customers with demanding business process innovation requirements, where it is less differentiated from TMS Leaders.
- LeanLogistics has been predominantly a North American TMS provider; however, it is expanding internationally and has some customers in multiple regions (North America, Australia/New Zealand, South Africa and Europe), but international represents a small percentage (less than 10%) of its customers. Furthermore, the vendor has not yet duplicated the size of the preonboarded, multitenant carrier network that it has in North America and other parts of the world.

- The vendor's SCE convergence vision and strategy are nascent relative to certain SCE categories (WMS, distributed order management [DOM]) and unproven at this time. However, within TMS, it has unveiled its global and domestic, and fleet and contract carrier product convergence strategy.

Manhattan Associates

Manhattan Associates, with headquarters in Atlanta, Georgia, has deep roots in logistics that go back more than 20 years. During that time, the company has added many new capabilities to its portfolio, such as transportation management, distributed order management and supply chain planning (SCP). The Manhattan TMS solution is preintegrated with other Manhattan SCE applications (WMS, yard management system [YMS], DOM) and provides capabilities to support domiciled based fleet, including dispatch and telematics integration. The vendor offers TMS capabilities for both shippers and carriers. Manhattan's TMS offering is best-suited to Level 3 to Level 4 transportation operations, but it can be used up to Level 5 operations in certain situations. Manhattan's TMS is still mostly focused on North America with some presence in Australia and Latin America. It intends to increase its global sales focus.

Strengths

- Manhattan's TMS is approaching market-leading functional breadth and depth for North American operational and tactical planning; execution; settlement; and freight sourcing/bid optimization. Furthermore, the vendor has integrated multicarrier parcel management, multimodal for-hire transportation management, and fleet planning and execution on a common platform. The vendor's fleet capabilities include deep last-mile vehicle routing and scheduling (VRS), which it refers to as high-density routing, which can compete with stand-alone VRS offerings.
- Manhattan's TMS is well-suited to the needs of retail, particularly grocery, whereby the goal is to integrate inbound and outbound movements, simultaneously optimizing both for-hire and private fleet transportation. Furthermore, the vendor is well-suited to address the transportation needs of multichannel commerce — with multimodal transportation planning and execution support across for-hire, fleet and parcel TMS integrated with warehousing and DOM.
- The vendor has one of the more compelling SCE convergence visions and current capabilities, built on a unique and differentiated common SCE/logistics platform that includes WMS, YMS, TMS, DOM, SCP and more.
- Manhattan has added several capabilities to its offering, including transportation modeling and proof-of-delivery functionality via a mobile app. The vendor has a strong math and science team that has done some interesting work on tactical planning scenarios that exploit simulation combined with optimization.
- The vendor's UI is still among the most user friendly UIs within the TMS landscape.

Cautions

- While Manhattan's TMS is not solely a retail solution, the majority of Manhattan's shipper customers are in retail industries. The vendor selectively competes in stand-alone, TMS initiatives outside its customer base and core markets.
- The vendor's TMS has historically been successful with large shippers (with $100 million or more in annual freight spend), but it is seeing increasing adoption by small to midsize shippers.
- Manhattan trails its competitors in cloud and carrier onboarding strategies and capabilities, but it is increasing user adoption of its multitenant SaaS offering.
- Manhattan's TMS is still mostly focused on North America and Latin America, but the vendor is considering other geographies where it feels its solution has a high probability of success.

MercuryGate International

Cary, North Carolina-based MercuryGate International is a small and focused — but rapidly growing — TMS vendor. The founders have deep roots in logistics and transportation, and used their experience with modern Internet-based development platforms to rapidly bring to market a more-than-competitive cloud TMS offering. The vendor has been growing its customer base at more than double the industry average, and it continues to operate profitably. The vendor is a financially sound and conservative company, generating new customers and profit percentages above industry averages. About two-thirds of the vendor's customers today are midsize North American 3PL companies, but it has a growing customer base of Levels 2 and 3 shippers. The vast majority of the vendor's business comes from North America, with about 3% international. The vendor continues to grow much faster than most of the TMS market. It has notable capabilities in adding net new customers, appearing in a high percentage of new deals and adding functionality to its platform at a rapid pace. MercuryGate is most often used in up to Level 3 transportation operations, but it might be usable in Level 4 operations.

Strengths

- MercuryGate's sole focus is on TMS. It has a credible TMS offering, with a rapidly growing number of 3PL and freight brokerage customers, along with a growing number of shipper customers.
- There is solid functional and go-to-market support for the needs of 3PL and freight brokerage companies, with about 70% of MercuryGate's customers in the logistics service provider (LSP) market. The shipper market, however, is a rapidly growing market for the vendor.
- Customer references identify TCO and time to value as two of the vendor's notable strengths, with a starting price point that is well below TMS market averages. With MercuryBoost, the vendor has also accelerated implementation timelines.
- The vendor continues to bring new functionality to the market. In 2015, MercuryGate introduced several new modules with MercuryProcure, MercuryFleet and RateFriend. These modules enable its clients to maximize purchasing power, manage fleet and benchmark industry rates.

- The TMS is deployed primarily as a multitenant SaaS with an application architecture that allows configuration, data storage and customization in the cloud; however, it can also offer on-premises implementation.

Cautions

- As a holistic multimodal TMS vendor, MercuryGate is best-suited for Levels 2 and 3 3PL and freight brokerage companies and shippers; however, it does have some large 3PL companies using its brokerage capabilities.
- Historically, the vendor's sales have focused primarily on North America, with about 97% of its business here; however, it is expanding its go-to-market capabilities and sales reach internationally.
- Some customer references cited issues with the implementation process as well as the actual cost of the implementation and integration versus what was estimated.
- MercuryGate does not have an organic SCE convergence strategy or vision. Its approach is to provide transactional convergence with ERP and WMS applications offered by application suite vendors, such as Infor, IBS and NetSuite.

Oracle

Oracle, based in Redwood Shores, California, continues to enhance Oracle Transportation Management (OTM) by adding significant new functionality, expanding global capabilities and developing strategic alliances. Oracle continues to maintain market momentum, growing its OTM customer base globally and across vertical industries, expanding its marketing and sales presence, and growing its consulting capacity with internal and partner resources. Oracle continues to add new TMS customers across vertical industries at a greater rate than the majority of its competition. A large part of OTM implementations are outside of Oracle's installed base. Oracle continues to expand its global presence with implementations in North America, Central America, South America, Asia, Australia, Western Europe, Eastern Europe, Middle East and Africa. Historically, OTM was best-suited for Level 4 to Level 5 transportation operations, but with Oracle's cloud offering, OTM also fits into Levels 2 and 3 operations. The largest part of new customers on OTM are selecting the OTM cloud.

Strengths

- OTM is a functionally broad, deep and robust TMS that can scale up to support the complex transportation requirements of the most sophisticated transportation organizations. Now, with Oracle's cloud TMS offering, it can scale down to smaller, less complex and less sophisticated shippers.
- OTM is well-suited to shippers or 3PL companies that want to manage transportation as a global shared service, in which freight is managed simultaneously across multiple business units and geographic locations.

- OTM has the strongest, broadest, and most mature and experienced ecosystem of third-party service providers, spanning thousands of carriers, multiple modes of transportation and multiple geographic regions. Customer references continue to note the strength of the OTM user community as an asset that allows great interactions and learning with peers and partners.
- OTM offers support for private/dedicated fleets and third-party carriers on the same platform, allowing companies with these types of fleets to gain more optimization and execution productivity.
- Next to SaaS, Oracle offers Platform as a Service (PaaS), which allows customers to use the OTM cloud solution and personalize it to their own requirements.

Cautions

- Oracle's list price can be considered high for large shippers (considering it is based on freight under management [FUM]); however, Gartner recommends that customers work with Oracle on pricing, as market and list prices are not synonymous.
- Oracle's community management strategy consists of providing prebuilt connections between OTM and multiple carrier networks. This strategy is acceptable for sophisticated shippers, but it might introduce some complexity for small to midsize shippers that desire a prebuilt carrier network out of the box.
- Some customer references this year noted implementation time and effort as things to watch and manage closely for OTM projects, including the effort in the middle layer integration work. Extended implementation time and effort are likely exacerbated by the typical OTM customer, which is large and complex.

SAP

SAP, with headquarters in Walldorf, Germany, has been offering for several years now a Transportation Management tool (SAP TM) that is built as a stand-alone product. SAP TM exploits NetWeaver development tools and is seamlessly interfaced with SAP's ERP and related SCM offerings. The number of SAP customers keeps growing at a high rate, but the number of live customers continue to lag other TMS Leaders. Although SAP's solution lacks maturity compared to the other Leaders, SAP continues to invest in innovation in the TM product to expand its capabilities in order to serve its shipper and LSP clients. Although over 50% of SAP TM customers are still in Europe, SAP has done a good job in expanding its international presence for the TM product, especially with a growing number of U.S. customers. SAP TM is mostly used by large shippers in the chemical, retail and 3PL industries. It has expanded to other industries, thanks to the new rail functionality that specifically benefits bulk shippers like chemical, and oil and gas companies. SAP TM is best-suited for Level 3 to Level 4 transportation operations that currently operate SAP ERP and related applications, but it can scale to Level 5 transportation operations.

Strengths

- SAP continues to sell SAP TM mainly to its ERP customer base. Customer references identified integration with their ERP as the predominant reason for choosing SAP TM. SAP has expanded its industry and geographical footprint for SAP TM in the past year.
- SAP TM is one of the fastest-growing TMS offerings in terms of customer sales, driven largely by SAP's ability to rely on the size of its ERP installed base of large, sophisticated manufacturing and distribution enterprises; its global presence and coverage for global sales and support; and its financial viability. However, we do see SAP lacking in large global TM rollouts compared to other vendors.
- SAP has a robust ability to deploy its TMS internationally. It is able to sell and implement SAP TM in areas where most TMS vendors lack capabilities, such as Latin America, the Middle East, Africa and the Asia/Pacific region.
- TM was built exploiting NetWeaver development tools, such as the rule engine, which provides unique and powerful capabilities to adapt the TMS application.
- SAP's SCE convergence vision focuses on combining TMS with warehousing, manufacturing, trade compliance, procurement and even SCP. The integration between TM and EWM continued to evolve with dedicated functionality for transit warehouses and integration with SAP Yard Logistics.

Cautions

- The majority of SAP TM customer references identified ERP and TM integration as one of the key advantages and reasons for selecting SAP TM. However, customers noted that during implementation, this integration wasn't as straightforward as they expected, and they also cited lack of integration with trading partners as problematic. To address less complex implementations, SAP utilizes Rapid Deployment Solutions (RDSs), which are fixed-price, fixed-scope and fixed-timeline service offerings.
- SAP TM's capabilities continue to lag those of the other leading TMS vendors in this Magic Quadrant in terms of breadth, depth and product maturity. This isn't that surprising, given that SAP's TM is a much newer solution than, for example, Oracle's or JDA's TM offerings. SAP has contributed major R&D funds to get to this point in a relatively short time, and continues to do so to fill functional gaps.
- Some customer references have indicated some performance issues and requested more testing before releasing new patches.
- SAP currently has no multitenant SaaS TMS offering, and its trading partner (carrier) community and connectivity strategies are quite immature. SAP partnered recently with Descartes to provide carrier connectivity through Descartes' Global Logistics Network, but SAP's ultimate goal is to create a network of networks, which is a future topic on its roadmap.
- SAP TM also includes capabilities specific to the planning and execution needs of large freight forwarding operations. Several customers in freight forwarding mentioned that the standard

SAP TM solution does not offer a full freight forwarding solution, and that the solution needed additional customization.

Transplace

Transplace, headquartered in Dallas, Texas, offers a strong, internally developed TMS supplemented by value-added services (operations-centric human capital). Transplace allows customers to subscribe to its self-service TMS technology only, and a moderate (but growing) number of customers are doing so. Transplace offers a SaaS multimodal TMS that spans the core TMS functionality of planning, execution and settlement, with strong analytics and performance management. The vendor also shows growth and competency in covering transportation requirements for both intra-Mexico and inter-Mexico. Transplace TMS focuses mainly on small to midsize shippers with a main focus on North America. Over 50% of its customer base is in the consumer goods and chemical industries.

Strengths

- Transplace offers TMS as a managed service, supplementing robust cloud TMS technology, with operational services geared toward the needs of individual clients. It can either provide full managed transportation services or deliver TMS technology only to customers, or customers can migrate from one to the other.
- Transplace exploits the experience and expertise of its people, and it has well-defined implementation processes and methodologies. Customer references noted the quality and expertise of the vendor's implementation resources.
- The vendor offers low TCO for its technology-only offering. Customer references noted the TCO as one of the main reasons they selected Transplace, as well as the ease of use and flexibility of Transplace's TMS.
- Transplace offers enhanced support for bulk commodity transportation management (notably, chemicals and associated products) through its acquisition of SCO Logistics and Logistics Management Solutions (LMS).
- Transplace has a strong network of carriers with around 9,000 North American OTR carriers, 50 rail carriers, parcel and steamship lines, and freight forwarders.

Cautions

- Transplace still has a modest number of TMS-only clients, even though the number is growing. It continues, however, to increase its participation in TMS-software-only deals.
- Its product focus is primarily on over-the-road for-hire transportation, rather than other modes, such as rail (boxcar), ocean or air.
- Transplace's TMS supports only North American (U.S., Canada and Mexico) transportation requirements; however, it partners with other vendors for international (import and export)

shipping. The vendor's TMS is sufficient for complex and sophisticated over-the-road for-hire users, but it has not differentiated itself from the TMS Leaders, particularly in global logistics.

- Transplace is a logistics service provider first and a technology provider second.

Vendors Added and Dropped

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

Added

Kewill: The formerly IBM Sterling TMS was dropped last year for not meeting the inclusion criteria. Subsequently, Kewill acquired the TMS offering from IBM and, after being integrated with the Kewill Move platform, Kewill met this year's inclusion criteria, and the Kewill Move TMS appears this year in the Challengers quadrant.

Dropped

No vendors were dropped this year.

Notable Mentions

Some vendors with emerging or reasonably capable, but less proven or incomplete holistic multimodal, TMSs did not qualify for this year's Magic Quadrant. However, this does not mean that these solutions might not be viable or preferable alternatives for some customers. To ensure that this research is consumable and understandable for our clients, we limit participation in this Magic Quadrant to vendors that demonstrate current strengths in the market in several dimensions, including market momentum, geographical coverage, live customer references, and multimodal TMS product breadth and depth (see the Inclusion and Exclusion Criteria section).

There are several reasons why a vendor might not have qualified. A vendor might not have the proven product breadth and depth, sales momentum, growth in revenue, or international coverage specific to multimodal TMS necessary to qualify for this research. These reasons alone should not prohibit users from considering these vendors if, for example, they fit a given user's requirements. Furthermore, for some potential customers, one of these vendors may have strengths that make it more appealing than other vendors in the Magic Quadrant — regardless of the characteristics that might have excluded the vendors from this research:

- **3Gtms:** 3Gtms, headquartered in Shelton, Connecticut, is a relatively new vendor in the TMS market. It was founded by industry experts in 2010 to create a next-generation TMS with a strong focus on domestic truck optimization. 3Gtms is targeting shippers, brokers and non-asset-based 3PL companies. 3G-TM covers core TMS capabilities, including rating, routing

(multistop and pool distribution optimization), tendering, track and trace/visibility, and settlement. 3Gtms has a partnership with TMW Systems to provide capabilities for companies dealing with third-party carriers as well as private fleets. The solution can be used by small shippers as well as large shippers with moderate complexity. The vendor currently has about 65 customers in North America. 3Gtms will focus on globalization in 2016.

- **BestTransport:** BestTransport, headquartered in Columbus, Ohio, offers a holistic, cloud-based TMS that covers the core capabilities of planning, executing and settling freight movements. The vendor has a unique position, having first built its solution to handle "complex loads," which are shipments that are heavy and irregularly shaped, and require special handling or unconventional transport. BestTransport, while small, has notable experience with complex shippers' needs, and it has taken advantage of the opportunity to build parts of its product in conjunction with a number of large, international companies with complex supply chains. Consequently, the company has been able to add depth and maturity to its product set beyond what might be expected for its size. Some new additions to its solution were SupplierConnection, which connects shippers to over 9,000 vendors and parcel capability through a partnership with ConnectShip. The vendor has about 45 customers, mainly in North America and some in Europe, ranging from small shippers to large shippers with high complexity.
- **Cloud Logistics:** Cloud Logistics, headquartered in West Palm Beach, Florida, is another emerging vendor created by a TMS market veteran, Mark Nix. While focused mainly on the execution side of freight transportation, and most suitable for Levels 2 and 3 shippers and 3PL companies, Cloud Logistics is taking the most innovative approach to blending the concepts of social networking and TMS. Of all the vendors and solutions reviewed for this research, Cloud Logistics had one of the cleanest and easiest to understand UIs, which came the closest to what contemporary users expect in modern mobile and Web-based applications. As its name implies, the vendor offers a cloud-based TMS that focuses primarily on execution, collaboration and business intelligence. Its cloud-based TMS also brings social networking concepts into play in the world of transportation. Although still relatively small, Cloud Logistics has more than tripled its revenue over the last year. It introduced "Same Day TMS," which allows small shippers to onboard the solution in a single day.
- **GT Nexus (Infor):** GT Nexus, founded in 1998 in Oakland California, was acquired by Infor in September 2015 and is mostly known as a cloud-based collaboration platform offering global logistics visibility, global trade management, purchase order (PO) management and supply chain finance. GT Nexus also offers a cloud-based transportation management solution for international and domestic transportation, covering all modes. GT Nexus had made several acquisitions in the transportation management technology space in the past. It has since rearchitected its TM to the current multimodal solution following the GT Nexus DNA around network operability, enabling integration and visibility across existing TMS systems, modes and regions to provide a single global view. The key components of the solution are sourcing, rating, planning and optimization, tendering, freight payment, and audit and analytics. Shippers, suppliers and logistics service providers all collaborate in the cloud with GT Nexus' Transportation Management solution. GT Nexus currently has about 50 customers, made up of shippers as well as 3PLs, using its TMS.

- **Logility:** Logility, which is headquartered in Atlanta, Georgia, offers a broad portfolio of SCM applications, including TMS and SCP. Logility offers a mature, proven and competitive North American-centric TMS solution that supports end-to-end processes, including load consolidation, mode/carrier selection, load tendering, tracking, freight audit and payment, and advanced analytics. One of the vendor's functional strengths is its multimodal rating engine, which supports LTL, truckload, rail, intermodal, parcel, air and ocean shipping. This is coupled with its offering of industry databases covering LTL tariffs, transit times, service guides, rail routes, and parcel and air freight rates. Logility also offers a convergent solution combining transportation with inventory optimization and demand optimization. Although its TMS is mature and proven, it represents a small percentage of the vendor's total revenue, which is concentrated in SCP. Logility has a more than 30-year tenure in transportation, with solid domain expertise and a solid product, but it lacks the broad vision, global TMS presence and investments to become a force in the TMS market. Logility focuses on midsize to large shippers and offers an attractive TCO, according to customer references.
- **ProcessWeaver:** ProcessWeaver, headquartered in Santa Clara, California, originally specialized in providing multicarrier compliance global shipping software, or what Gartner refers to as multicarrier parcel management. Over time, ProcessWeaver has expanded the footprint of its transportation offering to include multimodal TMS capabilities (road, ocean, air and parcel). ProcessWeaver works with shippers as well as freight forwarders. Its strategy is to continue to move more into the multimodal TMS space, and it is enhancing its offerings to do so. ProcessWeaver offers a native solution in SAP (in SAP ECC or eWM) and also partners with other ERP vendors such as Oracle, Sage IT and Microsoft Dynamics. ProcessWeaver has continued to develop new technologies around a mobile platform, including a campus mail solution called IMAYL and inbound supplier portal capabilities. ProcessWeaver, with additional locations in Europe, continues to expand internationally including some less serviced TMS markets such as Africa, the Middle East and India. ProcessWeaver has started focusing on last-mile delivery, including execution and visibility.
- **Transporeon:** Transporeon, headquartered in Ulm, Germany, has come at the TMS marketplace from a different perspective than all other vendors covered in this research. Where the vast majority of TMS providers focus on TMS business application logic and view the trading partner network (for example, carriers and logistics service providers) as secondary, Transporeon started the other way around and first built a comprehensive SaaS-based European shipper-carrier network with integrated TMS functionality. Over the years, the vendor has been adding incremental TMS business logic onto its network to address largely the desires of its customers. It offers capabilities such as transport sourcing, load tendering, transport booking, dock scheduling, track and trace/visibility, electronic proof of delivery, and analytics. It offers the most comprehensive visibility to the carrier partners and even subcontractors with end-to-end visibility on both shipper and carrier sides. Transporeon keeps growing at a double digit rate with currently 1,350 shippers and more than 55,000 carriers integrated through its platform. It also recently opened offices in North America, which allows it further growth in the North American market.
- **Transwide:** Transwide, headquartered in Brussels, Belgium, with offices in Europe, North America (New York) and Asia (Shanghai) is a business of Wolters Kluwer Transport Services. Transwide connects over 500 shippers to a network of more than 18,000 logistics service

providers via its SaaS offering. Transwide enables shippers and logistics providers to source, plan, execute, settle and analyze their transport operations. Although over 80% of the revenue comes from Europe, Transwide is growing in other regions, especially North America. Transwide caters to large, midsize and small shippers and logistics providers, and has deep domain expertise in primary material industries (chemicals, minerals, metals, forestry products and agriculture). As a business of Wolters Kluwer Transport Services, it also has access to a large community of carriers through Teleroute, Nolis, BursaTransport, 123Cargo and TAS-tms brands, which offer freight exchanges and transport management solutions for carriers, freight forwarders and logistics providers.

Inclusion and Exclusion Criteria

To be included in this year's TMS Magic Quadrant, a vendor must offer:

- **A holistic multimodal TMS offering:** This must be a credible, *holistic multimodal TMS* product with numerous live customers, and the vendor must have a vision for next-generation *multimodal transportation.* The TMS *must include* at least sourcing, multimodal planning/optimization, execution/tendering, audit/payment, visibility and performance management. We evaluate vendor support for the following shipping modes — over the road, ocean, air, rail, intermodal, small package, and private and dedicated fleet, as long as these are part of a multimodal TMS suite. We do not consider stand-alone solutions in these areas.
- **TMS market presence:**
  - TMS software is sold and used by the buyer independently of other services offered by the vendor.
  - The vendor's previous fiscal year multimodal TMS license revenue (only license/subscription and services associated with packaged TMS implementations) should be at least $10 million, or at least $10 million per year in hosted/SaaS TMS subscription revenue, with combined TMS license and service revenue greater than $20 million, or subscription and service revenue greater than $10 million for the previous fiscal year.
- **Current and active TMS customers:**
  - The vendor must have 20 live multimodal TMS customer references independently and holistically using the TMS solution being evaluated.
  - The vendor must have gained at least 10 new multimodal TMS customers in the previous 12 months.
  - The vendor must have implemented at least 10 new customers on this TMS version in the previous 12 months.
- **Global presence:** The vendor must have TMS customer references in at least two of the following geographic regions: North America, Latin America, Western Europe, Eastern Europe, the Middle East and Africa, Asia/Pacific, and Japan.

- **Cross-industry presence:** The vendor has new and existing TMS customers in at least three industries (such as 3PL/logistics services, consumer goods and retail, wholesale distribution, high tech, oil and gas, aerospace and defense, automotive, chemicals, life sciences/medical devices, healthcare, and industrial products).

We do not include other stand-alone transportation-related software applications, such as fleet-based routing and scheduling solutions, multicarrier parcel manifesting, global logistics or global visibility solutions, freight forwarding, or carrier-centric TMSs in this Magic Quadrant.

Evaluation Criteria

Ability to Execute

- **Product or Service:** TMS vendors' product breadth, depth and technology are highly rated components of their Ability to Execute, because the requirements for the most complex and sophisticated users in this market are so functionally intensive. We rate the vendors against their support of multiple subcomponents that make up a comprehensive TMS solution across planning/optimization, execution, track and trace/visibility, and performance management. Users with complex requirements and sophisticated operations focus intensely on the product, and will typically favor solutions in or near the upper quadrants. Less sophisticated or less complex users might require less functional robustness (see "Consider 10 Critical Issues When Evaluating Transportation Management Systems" and "Apply an Architectural Framework to Stratify Holistic Multimodal Transportation Suites"), and they could be satisfied with a wide variety of solutions.
- **Overall Viability:** Vendor and product viability and risk remain important criteria. Although viability is important, it should not overshadow product fit, vendor expertise, TCO, and service and support. Although there might be some viability concerns for some vendors, all other factors being equal, viability alone should not preclude users from considering these vendors.
- **Sales Execution/Pricing:** Until recently, sales execution and pricing were not significant differentiators in the TMS market. As smaller shippers have entered the TMS market, affordability has become more important. Although functionality remains important, these organizations typically demand less robust TMS capabilities, making price a more important evaluation criterion. Furthermore, 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 multinational companies choosing global solutions or customers buying in select geographies.
- **Market Responsiveness/Record:** The TMS market continues to evolve rapidly, and TMS solutions must keep pace to remain relevant, which makes market responsiveness and track record very important. We assess the historical and current performance of vendors to add to and enhance their TMS solutions to keep up with the changing wants and needs of TMS users.
- **Marketing Execution:** Marketing execution, although important to market visibility, is not an important element of the overall evaluation process.

- **Customer Experience:** A TMS 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, client satisfaction with products and services, and how much TMS experience a vendor has. 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 are also important because it demonstrates the vendor's ability to identify and satisfy the needs of customers.
- **Operations:** Operational competence is an 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 TMS 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 not only to sell and implement a solution but also to help customers fully exploit their TMS 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

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

Source: Gartner (March 2016)

Completeness of Vision

- **Market Understanding:** A demonstrated knowledge, proficiency and differentiated vision of the current and future transportation marketplace are critical considerations. Market understanding assesses the TMS vendor's ability to understand TMS 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 TMS 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 TMS vision is notable, a vendor's vision for broader SCE convergence is critical to moving 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.
  - Because all qualifying solutions in this Magic Quadrant for TMS handle basic multimodal TMS planning execution and settlement, a distinguishing characteristic of vendors on the right side of the Magic Quadrant will be the breadth of the TMS and current and planned support for TMSs regarding innovation capabilities, such as tactical planning, sourcing/ freight bid management, fleet routing and dispatch, multicarrier parcel management, 3D load design, SCE convergence, and mobility.
  - Vendors' domain expertise, technology vision and vision for the TMS of the future rank highly. We consider vendors' knowledge and vision for traditional shippers, LSPs, and domestic and international logistics. We also consider a vendor's vision for transportation process innovation, not simply process execution, which means demonstrating a compelling vision for how transportation trends will influence transportation needs of the future.

- **Marketing Strategy and Sales Strategy:** Until recently, marketing strategy and sales strategy have had minimal impact on the TMS market. Today, although important, marketing strategy is not differentiated across vendors. Sales strategy is also minimally differentiated, although Gartner believes this will likely be critical for exploiting future growth in the SMB market, where channel strategies become more important.
- **Offering (Product) Strategy:** Offering (product) strategy is critical, and it refers to a TMS provider's approach to product development and delivery that emphasizes differentiation, functionality, technology, methodology and feature set as they map to current and future TMS requirements 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, trade compliance, and manufacturing or hazardous materials safety. The 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 and Vertical/Industry Strategy:** Vendors' business models (that is, the soundness and logic of providers' underlying business propositions) and vertical/industry strategies are important but not critical. However, this is changing and will become more important in the future. 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.
- **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. 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 TMS (including multilanguage, multicurrency and geocoding), as well as complex, multileg international movements. This criterion also assesses vendors' abilities to support global transportation requirements beyond core TMS functionality, such as capabilities or partnerships, to address trade compliance and trade document management.

Table 2. Completeness of Vision Evaluation Criteria

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

Source: Gartner (March 2016)

Quadrant Descriptions

Leaders

Leaders have a compelling vision and a reliable Ability to Execute. Leaders in the TMS market have broad, deep and differentiated functionality that addresses a broad range of user requirements. These vendors have proven products and track records of customer success, and have demonstrated momentum in growing their market presence. Leading vendors support sophisticated and complex transportation strategies for large customers with substantial freight spending, as well as their ability to deploy their TMSs in smaller shippers. They also meet the needs of users throughout the transportation process, with offerings from tactical planning and procurement through to freight payment and audit functionality. Leaders should also offer adaptable technical architectures that allow for rapid innovation, which is needed to stay ahead of market demands. Furthermore, Leaders must have an SCE convergence strategy, as well as real examples of converged processes supported by their offering.

Leaders, as a rule, are innovators with compelling strategies for addressing the ongoing market changes related to the emergence of new technologies; expanded model support, including the integration of dedicated and private fleet planning and execution; and support for global transportation operations. Leaders are extending the reach of TMS beyond traditional shippers to include LSPs and other styles of transportation, such as bulk commodities or vehicles. They are also adding functionality to address the unique needs of emerging markets. They are out in front of the evolution of transportation management as an enterprise shared service. Leaders are also furthest ahead in supporting the transportation needs of multiple geographies, and adding capabilities to support the complex needs of multileg global logistics and transportation. Leaders listen to their customers but, just as importantly, their customers look to them for thought leadership, and they establish symbiotic relationships.

Challengers

Challengers offer reliable TMS solutions and have a historically reputable presence generally supporting moderately complex transportation requirements. However, Challengers trail Leaders in certain aspects of TMS, such as technology, functional breadth and support for business requirements of the most advanced TMS users. Moreover, Challengers lag in offering a captivating vision for the TMS of the future. Of particular note, Challengers might have very capable stand-alone TMSs; however, they lack an SCE convergence vision or strategy, and due to the compelling strategic importance of this concept, they lack the characteristics to be a Leader. Challengers may have reasonable TMS functional breadth or depth, but they may lack functionality in innovative areas, such as strategic or tactical planning, multileg international movements, TMS/WMS convergence, or dedicated/private fleet integration. Challengers are often followers that introduce emerging capabilities only after these capabilities have been established in the market by more innovative vendors. In addition, Challengers lack a realistic vision or support for SCE convergence.

Visionaries

Visionaries have a compelling vision for achieving a differentiated position in the TMS market, possess an SCE convergence vision and capabilities, and are innovating beyond basic TMS capabilities. However, they lack certain characteristics in their Ability to Execute. Visionaries might have compelling product strategies, but they lack the market momentum, have too few live customers, have functional gaps in their TMSs or lack the market presence to move higher in their Ability to Execute.

Niche Players

All TMS solutions in this Magic Quadrant support core TMS capabilities of planning, execution and settlement across multiple for-hire modes of transportation (see "Gartner's Model for Holistic Multimodal Transportation Management Suites"), including vendors in the Niche Players quadrant. Niche Players are often functionally satisfactory for many users, non-North American shippers, smaller shippers, or companies with moderate transportation complexity or sophistication. Niche Players could well be the best choice for these types of users. However, these solutions lack the full depth, breadth or robustness of functionality demanded by the most complex and sophisticated TMS users, might have limited global presence, lack a persuasive vision for next-generation TMSs,

or do not realistically support SCE convergence. These vendors might also lack the experience, number of clients, customer references or business viability of the leading vendors in the market. Yet, Niche Players are often viable or preferable for many TMS buyers.

Context

Gartner tracks multiple software application types that support the various needs of transportation operations, such as multimodal TMS, stand-alone fleet routing and scheduling, stand-alone parcel management, international logistics platforms, and carrier-centric TMS (see "Market Guide for Vehicle Routing and Scheduling," "Hype Cycle for Supply Chain Execution Technologies, 2015" and "Supply Chain Management Vendor Guide, 2014"). This research focuses specifically on holistic multimodal TMS, in which a company routinely uses multiple modes of shipping, such as full truckload (FTL), LTL, intermodal, rail, air, ocean, small package, and private or dedicated fleets. Furthermore, the emphasis in this research is on solutions that support primarily for-hire transportation, in which shippers contract with carriers for freight movements. We do, however, consider whether certain solutions also support dedicated and private fleet transportation as one of many modes supported by the applications, but we do not consider solutions that support only fleet planning and execution. Historically, TMS emphasis has been on over-the-road modes (FTL and LTL; see "Gartner's Model for Holistic Multimodal Transportation Management Suites"), but now a wide variety of shippers routinely use multiple shipping modes. All the TMS applications covered in this research do an acceptable job of planning and executing basic over-the-road moves; however, market and transportation economic and business conditions are driving companies to use more modes and more complex routing scenarios, which places more importance on a TMS's ability to handle complex multimode planning scenarios.

Gartner finds continued expansion in the sophistication, functional breadth and depth, and geographical scope of the TMS market. However, as shipper requirements grow, notable differences remain across TMSs in their ability to address the most complex requirements, the ability to deploy outside North America, and TMS native support for modes other than over the road. Furthermore, the challenges that user organizations have faced in orchestrating end-to-end processes have increased the importance of SCE convergence and the ability of logistics applications to integrate and work together across functional domains.

During 2015, the TMS market was again led by Oracle (with its OTM offering) and JDA Software, both of which continue to support some of the most complex TMS users, have broad and deep TMSs, and have compelling visions for next-generation TMSs. SAP continues to broaden its solution footprint and generate strong sales growth globally, especially with the existing SAP installed base. Gartner finds Oracle, SAP, JDA and Manhattan Associates finalists in a high percentage of complex TMS deals.

Several vendors continue to close the gap in terms of core over-the-road transportation functionality, and they are gaining traction in the TMS market. However, none of these have differentiated themselves enough to move into a leadership position.

The gaps in core North American TMS planning, execution and settlement functionalities have narrowed across many vendors, but several continue to distinguish themselves with a more compelling TMS vision regarding functionality, mode coverage, technology and globalization. Multiple vendors are positioned as either Challengers, Visionaries or Niche Players, and for some customers, depending on the scope of their needs, these vendors could be suitable or even preferable alternatives to this year's Leaders.

Global capabilities remain of large importance to customers. Several TMS products continue to add global capabilities (for example, multiple languages, currencies, geographic data or rules) and functionality for complex, multileg and multimodal international logistics. We see notable differences between European vendors and North American vendors; historically, North American vendors have much more focus on planning and optimization where European vendors focus on the execution and the carrier networks. Several North American vendors have started selling more into regions outside of North America. At the same time, several of the large European players have focused more attention on the North American market and have opened offices in the U.S. to sell and support their solutions.

Carrier networks have an increasing importance when shippers select a TMS. Several vendors continue to expand their organic carrier base, while others build partnerships to provide the required carrier networks. More often, shippers are leveraging the already-built carrier networks that are offered on the cloud platforms, and are losing appetite for creating one-to-one carrier connections, due to budget and resource constraints.

Support for global functionality distinguishes C.H. Robinson, inet, JDA Software, Kewill, MercuryGate International, Oracle and SAP in this year's Magic Quadrant. Oracle, C.H. Robinson and SAP have the most comprehensive TMS global sales and support capabilities. JDA and Kewill have reasonable global TMS coverage organically, as well as through the use of local implementation partners.

Gartner continues to see an increased demand for TMSs delivered in the cloud, with user attitudes shifting from cloud as an option to cloud as a preference. Most TMS providers now have some form of cloud deployment option, from dedicated cloud/hosted (that is, dedicated software instance per customer) to full multitenant SaaS (that is, single software instance shared by all customers). SaaS TMS demand is motivated largely by the lower upfront investment; however, we find growing recognition of the importance of prebuilt carrier networks that are partially inherent in multitenant SaaS TMSs. SaaS-prevailing TMS vendors (for example, LeanLogistics and MercuryGate) continue to perform well in North America. Newer SaaS or managed service TMS providers, such as inet and C.H. Robinson, have emerged from the international logistics arena and bring unique domain expertise to SaaS TMS. Furthermore, some traditionally on-premises application vendors, such as JDA, Manhattan Associates, Oracle and SAP, now offer cloud versions of their TMS applications. Companies like Oracle have seen over 50% of new deals in the last 12 months coming from the cloud OTM.

Cloud is starting to drive adoption of TMS solutions across the SMB segment. Gartner notices newer cloud providers having success in this segment while, at the same time, some larger vendors such as Oracle that historically focused only on large shippers are now selling into the SMB segment as well. The SMB TMS market requires ease of use, simplicity, time to value and low cost

of ownership. No SMB TMS Leader has yet emerged, but several vendors, such as MercuryGate, LeanLogistics, 3Gtms and Cloud Logistics have shown success in this space, and they offer some interesting SMB characteristics and strategies.

Not only do we see the platform changing for TMS, we also see the customers' expectations around implementation timelines and costs changing. These expectations mainly come from these cloud options and how the vendor positions the product adoption. Where traditional implementation was a minimum of six to nine months, we see the new TMS customer expecting six to nine weeks. Obviously large, complex shippers are still confronted with longer implementations, but most of the TMS vendors are working to templatize their solutions for rapid implementation. For cloud solutions, the vendor or the solution integrator might have created templates that can be reused on other projects. Cloud Logistics even came up with "Same Day TMS," which allows simple shippers to run their first transaction through the system by the end of the first day.

This year, a number of vendors did not qualify for this research, based on the specified inclusion criteria. Several vendors lacked the requisite sales momentum (that is, number of net new customers in the previous 12 months) to qualify, others lacked the international presence, while some lacked both. We have a large number of notable mentions this year. This group was composed of either vendors that had participated in previous TMS Magic Quadrants that missed qualification this year, such as Logility, or new/emerging vendors that had yet to meet the inclusion criteria, such as 3Gtms, BestTransport, Cloud Logistics, GT Nexus, ProcessWeaver, Transporeon and Transwide.

Market Overview

TMS vendors continue to invest in expanding the breadth and depth of their TMS suites as well as expanding their global footprint. During the past several years, vendors have expanded their TMS portfolios to the point where buyers focused on North American over-the-road transportation can source most of their needs from a single TMS vendor. At a minimum, all vendors in this Magic Quadrant support basic over-the-road planning, execution, track and trace, and settlement, and they offer some multimodal capabilities. However, there are notable differences in the breadth and depth of various TMS offerings. Some vendors have expanded their product footprints to support other transportation functions, such as tactical (forward looking) planning and optimization, freight procurement, load design, asset-based/fleet-based routing and scheduling, appointment scheduling, multileg/multimodal international shipping, intermodal and rail, multicarrier parcel management, and performance management. Furthermore, a few have expanded the scope of their TMSs to support global deployments and international logistics. Depending on the wants and needs of individual enterprises, many TMSs are offered in a variety of deployment models (including traditional on-premises, SaaS and managed service).

The evolutionary expansion of the depth and breadth of TMS offerings improves the value proposition for TMSs. Enhancements in freight procurement, audit and payment, and support for more modes of transportation (for example, intermodal, parcel, rail, air and private/dedicated fleets); visibility/event management (track and trace); and performance management have added to the value of TMSs beyond the traditional boundaries of better load planning and electronic freight

tendering. During the past several years, Gartner has seen notable investments in areas such as the integration of asset-based and for-hire freight management on a single platform, improvements in the depth and flexibility of transportation performance management, continued expansion of capabilities to support global logistics, and more capabilities to support LSPs and 3PL companies.

A number of forces are affecting the TMS market and will likely shape it moving forward, including:

- Expanded support beyond just planning and mode selection are needed for multiple modes of transportation on a single platform, including truck, ocean, air, fleet and parcel/express. Although mode selection remains valuable, newer solutions support the entire functional flow of these additional modes of transportation, such as multicarrier parcel manifesting, rail management or fleet dispatching.
- Improving freight efficiency, as well as reducing outbound costs, is driving demand for the more robust logic that is needed to address concepts such as pool-point or hub-and-spoke distribution; continuous moves; evolution from prepaid to collect on inbound; merge in-transit; flow-through distribution; order splitting; and, in the most forward-thinking organizations, "co-opetition," in which two or more shippers collaborate to gain efficiencies.
- During the last several years, user interest in the ability for a TMS to also support both inbound and reverse logistics has increased dramatically. For a number of years, most TMSs have been able to technically handle inbound freight. However, it is only recently that users and vendors have fully recognized the magnitude of change management needed by both suppliers and internal users to make managing inbound freight a reality.
- TMS in the cloud has evolved from a buyer option to a buyer preference, with a high percentage of Gartner clients during TMS inquiries first asking for cloud-based TMS options. Most of the vendors in the Magic Quadrant offer a cloud option, so it is becoming less of a differentiator.
- Sustainability considerations, while most compelling in Europe, South Africa and Australia, are driving TMS acquisitions and influencing TMS functional requirements. Sustainability needs are driving interest and growth in the use of hub-and-spoke distribution networks and 3D load design, and inclusion of carbon as an explicit planning variable.
- While the primary focus of TMS remains operational planning, many sophisticated shippers now recognize the criticality of tactical, forward planning to help address and evaluate not just today's needs, but also future conditions and needs. As a result, we have seen a select few vendors adding tactical planning capabilities to their TMS offerings. We also notice several of the vendors with a divergence strategy linking transportation planning into other supply chain planning tools, such as inventory planning or manufacturing planning, creating an advanced transportation planning capability.
- The SMB TMS market is expanding. Penetration of TMS solutions has been by far the highest in the large shipper category. Cloud solutions with a lower TCO, pay-as-you-go offering that also allows faster implementation and quicker ROI have allowed many SMB companies to adopt these TMS solutions. Although large shippers gravitated to TMS Leaders because of these solutions' ability to support highly complex functional requirements, smaller shippers do not typically require the most advanced functionality.

- Globalization, in terms of international TMS sales and deployments, and multileg, multimode international shipment support, is a bigger issue for buyers. Leading TMS vendors continue to invest in expanding global transportation capabilities and go-to-market tactics. We notice that many of the challengers are also expanding their global footprint, mainly by request of their existing customers that see the need for a global solution.
- Embedded analytics that support improved performance management will further enhance the value proposition by providing more users (and more diverse users) with access to TMSs, delivering more usable information to make better decisions.
- The largest and most sophisticated shippers are moving to operate transportation as a global shared service, which demands the ability to support multiple tenants (for example, geographies, lines of business and functional organizations) within a single instance of the TMS. This model places particular emphasis on the TMS's ability to plan and execute tasks horizontally across the business, while maintaining the integrity of individual tenants. This also puts higher requirements on the vendor on the ability to implement and support the solution on a global scale.
- Community management is becoming a more important issue in TMSs, given the multienterprise nature of transportation. Although some vendors have built impressive over-the-road carrier communities preonboarded to their TMS platforms in a specific region, support for other modes is spotty, and international networks are embryonic and largely unavailable.
- Visibility remains an issue, even with companies that have implemented TMS solutions. Shippers have had to rely on the carriers sending electronic data interchange (EDI) messages or providing manual system updates to get visibility to the status of their shipments. In many cases, this was a matter of too little, too late — especially in over-the-road transportation where there are millions of fleets, and it is very difficult to get real-time updates to shipments. As carriers become more sophisticated in their technology, several companies, such as FourKites and MacroPoint, have come into the market to try and solve this issue. These companies are still fairly young and are continuously adding connection to the carriers onto their platforms to which the shipper customer has direct access to real-time information. Several of the leading TMS providers have partnered with these companies to provide better visibility during transportation execution.

Gartner Recommended Reading

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

"Critical Issues to Consider When Evaluating Transportation Management Systems"

"Gartner's Model for Holistic Multimodal Transportation Management Suites"

"Hype Cycle for Supply Chain Execution Technologies, 2015"

"Supply Chain Guide to Making Smart Decisions on Warehouse and Transportation Management Systems"

"Market Guide for Vehicle Routing and Scheduling"

"Supply Chain Management Vendor Guide, 2014"

"Market Guide for Supply Chain Visibility Software"

"Unify End-to-End Logistics Processes With Supply Chain Execution Convergence"

"How Markets and Vendors Are Evaluated in Gartner Magic Quadrants"

Evidence

The following were used to collect information about the vendors and their TMS offerings:

- **Vendor presentations and demonstrations to the Gartner analyst team —** Specifically to support this research, each vendor is allotted time to present information about its company and solutions. Each vendor is allotted the same amount of time for this research, but Gartner also conducts interactions with vendors throughout the year as part of our normal and ongoing relationships with our user and vendor clients.
- **Research and data collection —** Each vendor is also asked to respond to and fill out a survey that investigates in more detail factual information about its company and TMS offering. Also as part of this exercise, Gartner requests that each vendor provide at least three, or more, TMS customer references not previously provided to Gartner. We look for customer references that demonstrate the areas of functionality and customer experience in which the vendors believe they are differentiated.

Note 1 The Five Levels of TMSs

At Level 1 and Level 2, there is no real planning, whereas from Level 3 to Level 5, the robustness and complexity of the planning requirements increase level to level. At Level 5, the complexity shifts to the international scope of operations and deals with the added needs of running a global freight operation. TMS solutions share many characteristics, but there are distinct differences across the strata of TMS, which can be broken down into five system levels — from the simplest to the most sophisticated and advanced.

Level 1 (Supplemental)

Level 1 TMS solutions offer limited transportation capabilities, normally as minimal additions to the order management and fulfillment capabilities of ERP applications. Level 1 TMS applications are rudimentary, mostly manual TMS capabilities, such as simple mode and carrier selection at order entry time. Many ERP solutions provide a place to select a carrier for a specific order from a fixed routing guide, a list or as specified by the customer. Some also offer minimal mode selection based on high-level rules, such as delivery promise date, which help determine if an order goes parcel/next

day or less than truckload. Normally, these solutions support a fraction of an enterprise's transportation activities; the remainder are typically supported manually.

Level 2 (Execution-centric)

This level introduces more transportation-specific functionality, focusing primarily on the execution aspects of over-the-road transportation — tendering shipments to carriers — and, in some cases, providing limited and rudimentary planning capabilities. Level 2 TMS provides more dynamic selection of modes and carriers while focusing on improving the shipment-tendering process. However, Level 2 TMS typically supports a minimal number of modes (for example, truckload and less than truckload), and most are regionally specific (for example, the U.S.). The basic systems provide some EDI tendering. More robust solutions add carrier portals, whereby email messages or Web forms are used to electronically tender to non-EDI capable carriers.

Level 3 (Expanded footprint)

Level 3 TMS solutions expand the functionality by adding better operational planning, visibility (track and trace), some freight rating and carrier contract management, audit and pay, and some freight analytics. These solutions are closer to providing a closed-loop TMS (plan-execute-monitor-settle), with somewhat more sophisticated planning engines and more options for consolidating shipments and selecting the best carrier. At this level, we see improved operational planning for a single direction (for example, outbound or inbound), more modes (for example, parcel, less than truckload, truckload, air, intermodal, rail and ocean), minimal support to identify backhauls and round trips, more robust load consolidation, and better carrier selection.

Level 4 (Advanced planning)

This level introduces increasingly sophisticated transportation planning features focused on improving mode selection, load consolidation, routing and carrier selection, allowing for the simultaneous consideration of inbound, intraenterprise and outbound shipments in a single planning and execution environment. Level 4 TMS has more robust options and greater levels of inherent model sophistication and flexibility. These systems are aimed at constructing transportation plans that exploit more opportunities to combine loads, build round trips, build continuous moves or exploit advanced concepts (such as pool and floating pool-point distribution) to further reduce costs while meeting service objectives. These systems are often used to centralize transportation planning with the most advanced shippers, creating a shared-service organization spanning functional areas, business units and geographies. Breadth continues to expand. These types of Level 4 solutions also expand the footprint by adding capabilities, such as freight procurement, bid optimization, forecasting, tactical freight capacity planning and more robust performance management.

Level 5 (Globalization)

The previous levels focus on domestic/regional transportation, whereas the emphasis at this level shifts to global transportation/logistics operations. Level 5 operations are usually the most complex and sophisticated because these organizations need to support multileg shipments that typically

span multiple countries, multiple modes of transportation, multiple parties involved in a shipment and shipments with long cycle times. Level 5 TMSs are designed to handle the complexities and special needs of a global transportation operation. At a minimum, these systems must be globalized to support multiple languages, currencies, geographies (road networks) and other international features, such as date formats and postal codes. More important is the need to support global transportation requirements, such as multileg shipments, international documentation and additional modes, such as ocean and international air shipments.

Evaluation Criteria Definitions

Ability to Execute

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

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

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

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

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

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

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences,

programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

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

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

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

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

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

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

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

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

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