Magic Quadrant for Transportation Management Systems

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Initiatives: Supply Chain Technology Strategy and Selection

The transportation management system market continues to grow globally despite the current economic crisis. Transportation has become an even more essential part of the supply chain, increasing the need for technology. Supply chain technology leaders can use this research to evaluate the TMS market.

This Magic Quadrant is related to other research:
View All Magic Quadrants and Critical Capabilities

Additional Perspectives
- Europe Context: ‘Magic Quadrant for Transportation Management Systems’
  (31 March 2021)

Market Definition/Description
Multimodal domestic transportation management systems (TMSs) are a subset of the global TMS market. TMSs 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 Systems — Part 1: Core Capabilities and Gartner's Model for Holistic Multimodal Transportation Systems — Part 2: Extended Capabilities.)

This Magic Quadrant specifically focuses on holistic multimodal domestic TMSs for use by shippers (such as manufacturers, retailers, distributors and wholesalers) or non-asset-based, third-party logistics (3PL) organizations. Gartner defines “holistic,” in this context, as a TMS that incorporates all core capabilities, and “domestic” as movements within a region, mainly through domestic modes of transportation. “Multimodal” refers to the different modes supported for domestic transportation such as, but not limited to, FTL, LTL, rail, intermodal, parcel, last mile and barge.

The primary emphasis of this Magic Quadrant is on systems that support for-hire transportation management operations. This is where users employ transportation companies across a variety of shipping modes, including over the road, private/dedicated fleet, small package, rail and intermodal. Global companies and companies that import products from different regions also use air and ocean as a main transport mode, which are part of the international TMSs, but are, in some cases, covered by the multimodal domestic TMS vendors.
TMS suites can include all transportation management functions across multiple modes, depending on the level of complexity (see Note 1). These can include strategic planning, strategic freight sourcing and procurement, planning and execution, visibility and performance management, and freight payment and audit capabilities. TMSs can provide support for multiple modes of transportation, adding deeper support for modes such as small package or parcel shipping, private fleet planning and execution, intermodal, and rail. TMSs embrace global logistics functions and features and continue to broaden their capabilities through partnerships with visibility vendors, carrier networks and freight marketplaces.

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). Public cloud is the dominant delivery mechanism for TMS solutions. Almost all growth in the TMS space comes from cloud TMS offerings. Gartner notices far less new investment in on-premises applications. The number of TMS end-user companies that have started transitioning their TMS solutions from on-premises to the cloud also continues to grow, either through switching vendors or switching platforms within the same vendor. Established TMS vendors continue to grow their cloud-based products to defend their market share against fast-growing cloud-native vendors. Cloud-native vendors are incorporating emerging technologies to deliver real-time transportation visibility and transportation mobility, increasing the value added by TMS SaaS.

Components of a TMS

Multiple subcomponents make up comprehensive multimodal TMS solutions. In this Magic Quadrant, we evaluate the vendors’ offerings, considering the following core multimodal TMS components:

- **Strategic freight sourcing and procurement:**
  - Freight rating and contract management
  - Freight audit, payment and settlement

- **Carrier network/community management**

- **Planning:**
  - Carrier
  - Mode selection
  - Load consolidation/optimization
  - Continuous move optimization
  - Global multileg planning and optimization
To differentiate between the different TMSs, we also considered extended multimodal TMS components, although these are not required to qualify for the Magic Quadrant:

- Transportation execution:
  - Tendering
  - Carrier appointment scheduling

- Visibility and event management:
  - Over-the-map visibility
  - Real-time location

- Settlement:
  - Freight audit and payment
  - Freight billing

- Performance management (analytics)

To differentiate between the different TMSs, we also considered extended multimodal TMS components, although these are not required to qualify for the Magic Quadrant:

- Appointment/dock scheduling

- Private fleet vehicle routing and scheduling/dispatching:
  - Asset-based planning
  - Final-mile optimization
  - Fleet dispatching

- Parcel optimization and manifesting:
  - Multicarrier parcel management and manifesting
  - Parcel execution and label generation

- Transportation modeling:
  - Strategic planning
  - Tactical planning
End-User Focus of This Magic Quadrant

This research focuses on non-asset-based shipping enterprises (i.e., shippers and 3PL companies). However, the research also includes solutions that can support private fleet transportation or systems that can support asset-based, for-hire carriers in addition to supporting shippers. It does not focus on specialized solutions targeted only at private fleets, asset-based transportation companies 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, order management, and payroll), 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, for hire over the road, dedicated fleet, rail, intermodal and others. Vehicle routing and scheduling solutions for companies with fleets are covered in Gartner's Market Guide for Vehicle Routing and Scheduling. Additionally, although parcel solutions can be included in a multimodal TMS, stand-alone parcel manifesting solutions are not included in this research. For that coverage, see Gartner's Market Guide for Multicarrier Parcel Management Solutions.

Market Size and Vendors

Overall Market

TMS technology is on the rise. The latest Gartner forecast on TMS, worldwide, estimates that the market is expected to grow from $1.32 billion to $2.11 billion (from 2019 through 2024). That is a growth of 60% over a five-year period.

Factors such as the need to reduce costs; improve internal productivity, efficiency and customer service; increase visibility; and make better use of capacity are driving the growth of the market through 2024.

Regional Trends

The Americas region will continue to lead the global TMS market in volume of implementations, followed by EMEA and then Asia/Pacific (APAC). By 2024, spend on TMS applications will be $2.11 billion, accounting for 28.1% of the $7.28 billion supply chain execution (SCE) software spend through 2024. This growth will be driven by the replacement of on-premises software with SaaS applications. The share of SaaS is estimated to increase from 37% through 2019, to more than 60% through 2024. 

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The TMS market continues to be highly fragmented due to the presence of many vendors in the U.S. and Europe. Several vendors have been offering TMSs for a long time, but new vendors continue to enter the TMS market. TMS startups as well as existing SCM vendors that have acquired a TMS solution continue to extend the vendor landscape in TMS. The Magic Quadrant vendor positioning and range this year was impacted by a significant number of new entrants. The new entrants changed the scale by which vendors are comparatively evaluated, which is why this 2021 TMS Magic Quadrant looks different from previous years.

Gartner has identified a growing number of new vendors in the market, with some in Asia, which is an emerging but fast-growing market for TMS (see Asia/Pacific Context: 'Magic Quadrant for Transportation Management Systems'). In many cases, these TMS solutions are focused on specific capabilities, industries, company types or regions.

**Vendor Types**

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

- **Application megasuite 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]). Sample vendors include Oracle and SAP.

- **SCM suite 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. Although these vendors might offer a variety of SCM solutions, they do not necessarily offer an integrated platform (although some do). Sample vendors include Blue Yonder, E2open and Manhattan Associates.

- **Logistics suite vendors** offer a portfolio of logistics applications focused primarily on TMS, WMS, GTM, freight payment, visibility and/or parcel management. Sample vendors include Alpega Group, BluJay Solutions, CTSI-Global, RateLinx, Transporeon Group and Trimble (Kuebix).

- **Specialist TMS vendors** are independent software vendors (ISVs) that focus primarily or exclusively on holistic TMS, although they might offer some additional capabilities. Sample vendors include 3G, 3T Logistics & Technology Group, BlueRock Logistics, MercuryGate and Shipwell.

- **TMS service vendors** offer the TMS technology, but they can 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 of the logistics suite vendors (such as BluJay Solutions and Trimble) and specialist TMS vendors (such as 3T Logistics & Technology Group and Shipwell) also offer this service but are still primarily technology vendors. Sample vendors include C.H. Robinson (TMC) and Transplace.

**Magic Quadrant**
Figure 1: Magic Quadrant for Transportation Management Systems

Vendor Strengths and Cautions

3T Logistics & Technology Group

3T Logistics & Technology Group (3T LTG) is a Niche Player in this Magic Quadrant. Its TMS, 3T EVENT, is broadly focused on different areas of the supply chain providing capabilities for domestic operations, including routing, dock scheduling and parcel management. 3T LTG operations are mostly focused in Europe, and its clients tend to be small to midsize organizations that operate in industries like manufacturing, automotive and food distribution. 3T LTG is focused on growing stronger in the SMB market, developing new apps using a microservice system architecture. Its aim is to provide capabilities that can connect to 3T EVENT and that are accessible to the user via a digital self-service, app-store-like portal. 3T EVENT is best suited for Level 1 to 4, but can scale to Level 5.

Strengths
- **Business Model**: The vendor has extensive logistics experience and offers not only technology but also fourth-party logistics (4PL) and TMS managed services.

- **Product or Service**: 3T LTG offers EVENT TMS as a standard SaaS TMS that can leverage packaged apps developed with microservices architecture to broaden the capabilities of the system, providing a self-service and self-onboarding implementation approach.

- **Customer Experience**: Usability and simplicity remain as some of the main strengths of 3T EVENT as validated by end-user reviews in Gartner Peer Insights.

### Cautions

- **Geographic Strategy**: 3T LTG remains mostly focused in its local market as well as Western Europe. The vendor has not been able to accelerate its growth and expand its footprint in other regions, despite its expansion and partnership efforts.

- **Market Responsiveness**: 3T EVENT is a TMS that could be used by large organizations and cover up to Level 5 of transportation complexity. However, the TMS remains best suited for SMB organizations with lower transportation complexity.

- **Product or Service**: The growth of the carrier network in 3T EVENT has been slower than that of its competitors. Although the solution offers carriers a self-onboarding portal and other onboarding capabilities, the lack of partners specialized in providing carrier networks can be perceived as a weakness by those organizations that explore the spot market often in their logistics operations.

### Alpega Group

Alpega Group is a Challenger in this Magic Quadrant. Its solution, Alpega TMS, is broadly focused on supply chain operations, providing different solution bundles with capabilities that scale, depending on the operation complexity. Alpega Group operations are geographically diversified. However, the bulk of its customers remain in Europe, and they range from small to very large-size organizations that operate in industries like automotive, manufacturing, consumer packaged goods and retail. Alpega Group has its focus on shaping transportation collaboration through technology, digitizing transportation operations and integrating other solutions it has in its portfolio, like TenderEasy, into a unified Alpega TMS portfolio. Alpega TMS can scale from Level 1 to Level 5.

### Strengths

- **Product or Service**: Alpega Group’s offering remains attractive for organizations in all different levels of transportation operation, from Level 1 to Level 5.

- **Operations**: Alpega TMS has a large partner ecosystem that provides the opportunity to extend the capabilities of its TMS in domestic and international operations. New software partners like FourKites (real-time visibility) and Xeneta (ocean freight rate benchmark and analytics) are now part of Alpega Group’s ecosystem.


**Market Responsiveness:** The scalability of the system to support the different levels of transportation complexity has helped Alpega Group to continue onboarding a substantial number of customers from all sizes during the past year.

**Cautions**

**Geography Strategy:** Alpega Group’s customer base outside Europe remains rather low compared to its competitors. Alpega Group keeps growing in the APAC and North American market, although at a slower pace than it does in Europe.

**Product or Service:** Despite the integration and consolidation of the different TMSs owned by Alpega Group (Transwide and inet), Alpega TMS still does not have a unified UI providing a consistent experience across modules for the end users.

**Customer Experience:** Alpega scored in the bottom third of vendors in this Magic Quadrant on customer satisfaction, and this was reflected in the Gartner Peer Insights reviews. Issues in integration and data inflexibility were the most notable issues.

**BlueRock Logistics**

BlueRock Logistics is a Niche Player in this Magic Quadrant. Its solution, BlueRock TMS Platform, is broadly focused on different areas of the supply chain, providing tactical and strategic capabilities in the areas of shipment execution, operation planning and network optimization. BlueRock Logistics operations are geographically diversified. Most of its customers are shippers and 3PL providers with large transportation networks and are based in Europe, ranging from small to large organizations that operate in industries like logistics service providers, retail or fashion. BlueRock Logistics has its focus on further developing its network optimization engine and providing more capabilities related to data visibility and predictive analysis. BlueRock TMS Platform is best suitable for Level 1 to Level 4.

**Strengths**

**Product Strategy:** BlueRock TMS Platform has been built from the ground up as a SaaS solution using microservices architecture, making the solution very adaptable and flexible to new developments.

**Business Model:** BlueRock Logistics is a relatively young company founded by logistics veterans with academic roots. The vendor leverages this experience in the development of its network design and forecasting capabilities.

**Market Understanding:** BlueRock TMS Platform is a scalable solution that can cover complex optimization and multimodal operations.

**Cautions**

**Overall Viability:** Although BlueRock Logistics is growing its number of customers, the vendor is one of the smallest vendors in terms of revenue featured in this Magic Quadrant.
**Geographic Strategy:** BlueRock Logistics has most of its customers in the European region. However, the vendor has a small number of customers in other regions and opened a new regional office in Toronto, Canada, in February 2021.

**Operations:** Currently, BlueRock Logistics has no partner ecosystem in place. This could be a limitation for end users looking to extend the TMS capabilities.

**Blue Yonder**

Blue Yonder is a Leader in this Magic Quadrant. As the largest independent SCM suite vendor, it offers a platform of SCM solution suites that includes warehouse management systems (WMSs), TMSs, supply chain planning, merchandising, workforce management, retail planning, commerce and fulfillment in combination with AI and advanced analytics tools. Its platform provides the capability of data management, integration and machine learning that is leveraged by the Blue Yonder TMS. Blue Yonder continues to lead the TMS vendors from an innovation perspective. The TMS is most often used in Level 4 and Level 5 transportation operations on a global scale, mainly in the consumer products, manufacturing, retail and 3PL industries.

**Strengths**

- **Market Understanding:** Blue Yonder offers a growing range of SCM applications with continuous innovation around machine learning capabilities providing clients with increased productivity. In 2020, it acquired Yantriks, a SaaS provider of commerce and fulfillment microservices.

- **Offering Strategy:** Blue Yonder has a broad set of partners for visibility and freight capacity, which was strengthened in 2020 by vendors such as Loadsmart and project44.

- **Vertical/Industry Strategy:** Blue Yonder has a broad presence in multiple industries. In 2020, it specifically strengthened its position in the 3PL industry through partnerships with Schneider and Echo Global Logistics.

**Cautions**

- **Market Responsiveness:** Although Blue Yonder has made strides with its cloud-based TMS offering, its presence in the largest section of deals (midsize shippers) is still relatively small.

- **Sales Execution/Pricing:** Although improvements have been made around total cost of ownership (TCO) and implementation, the TMS continues to be one of the more costly and resource-intense TMS products.

- **Customer Experience:** Complexity and implementation times for the Blue Yonder TMS are higher than those for the average TMS solution. Customers refer to the system in some cases as cumbersome, complex and restrictive as well as difficult to manage and upgrade.

**BluJay Solutions**
BluJay Solutions (BluJay) is a Challenger in this Magic Quadrant. Its TMS, Transportation Management, is broadly focused on different areas of the supply chain providing capabilities for domestic and international operations. BluJay's operations are geographically diversified, and its clients tend to be medium to large organizations that operate in industries like consumer packaged goods, food and beverage, retail, and logistics service providers. BluJay's approach to TMS is that of providing technology that combines applications, network and data in a multitenant single-network environment. The vendor has recently launched applications that go deeper in the areas of data analysis (BluDex, SpotLight) and collaboration (SpotFinder). BluJay is best suited for Level 2 to Level 3.

**Strengths**

- **Product Strategy:** BluJay has strengthened its solution offering with network modeling capabilities. Its new Transportation Modeling module was built in collaboration with LLamasoft and allows for the quantification of cost-saving opportunities by considering parameters such as mode conversion, consolidation, number of stops, truckload asset capacity and date flexibility.

- **Product or Service:** BluJay's Transportation Management usability has been positively affected by the redesign of its user interface.

- **Business Model:** BluJay continues to broaden its supply chain software solution portfolio, adding new capabilities, solutions and partnerships in areas of increasing importance, such as data and analytics and collaboration.

**Cautions**

- **Product or Service:** Although BluJay's Transportation Management could support higher levels of transportation complexity, the solutions do not fit for most Level 4 and Level 5 customers due to lack of strong optimization capabilities.

- **Customer Experience:** BluJay received lower-than-average scores on customer satisfaction than other vendors in this Magic Quadrant, and this was reflected in Gartner Peer Insights scores. Downtimes at peak times due to higher volumes of order requests and integration issues were the most frustrating issues they had with the product. The vendor has reported these issues have since been resolved.

- **Geographic Strategy:** Although BluJay is a global vendor with clients in all regions, the vendor is not onboarding as many customers as its competitors in the European and APAC regions.

**C.H. Robinson (TMC)**

C.H. Robinson (TMC) is a Challenger in this Magic Quadrant. The TMS, called Navisphere, is best-suited for Level 1 to Level 3 transportation operations but may scale to Level 4 and Level 5. Navisphere is primarily focused on North America, but supports customers in other geographic regions. Navisphere customers range from very small to large enterprises, with the majority of its customers having annual freight spends of $25 million or less. Navisphere supports customers across a large number of industries, with specific focus in industrial manufacturing, consumer products, food and beverage, and
automotive. Investments in 2020 included improvements to multileg planning and parcel shipping for the small and midsize customer segments.

**Strengths**

- **Overall Viability:** C.H. Robinson is a company with a strong background and history in transportation. It continues to invest heavily in the business and in its technology, having previously announced a $1 billion technology investment to increase innovation, speed to value and improved user experience.

- **Business Model:** The continued commitment to offering a fully managed solution is a differentiator for C.H. Robinson. It is one of only a few TMS vendors in this Magic Quadrant to offer this capability.

- **Customer Experience:** C.H. Robinson received some of the highest overall scores among vendors on Gartner Peer Insights. Specifically, it received high scores for service and support and for integration and deployment.

**Cautions**

- **Market Understanding:** C.H. Robinson’s overall strategy for supply chain execution convergence is not in line with other vendors in this Magic Quadrant. It has not exhibited the same level of vision for this area as other vendors.

- **Product or Service:** C.H. Robinson trails other vendors in this Magic Quadrant with regard to the usability of its technology. Although it has worked to improve this area, its progress still lags the progress made by other vendors.

- **Customer Experience:** C.H. Robinson’s offering of a fully managed service is appealing to many buyers. However, some prospective customers indicated there was a feeling of pressure to choose this option versus their stated desire to only purchase the technology.

**E2open**

E2open is a Challenger in this Magic Quadrant. E2open offers a suite of end-to-end SCM solutions that connects internal and external ecosystems/global trading networks to help companies of any industry around the globe plan, source, make, deliver/return and shape the channel response. E2open’s TMS is built on the Cloud Logistics, INTTRA and Amber Road acquisitions, offering TMS, GTM, visibility and carrier connectivity on a single platform. Besides core TMS, E2open offers networking, forecasting and convergence, which have been integrated into the E2open TMS. The TMS focuses primarily on execution, collaboration and business intelligence. The TMS has been mainly active in the manufacturing, retail and 3PL industries. The TMS solution is suitable for Level 1 to Level 5.

**Strengths**

- **Market Understanding:** E2open offers a convergent solution based on its Harmony platform and the E2net Trading Partner Network, providing analytics, visibility as well as advanced capabilities such as Transportation Forecasting.
Cautions

- **Product or Service:** Although E2open is on par with other Challengers and Leaders for core capabilities, it still lacks capabilities such as private fleet routing and 3D load build.

- **Market Responsiveness/Record:** Although E2open has experienced growth in the large and complex shipper market, the solution may become more challenging for small or medium shippers to use easily.

- **Market Responsiveness/Record:** E2open's TMS solutions are not built for or targeted at the same strata of customers. Cloud is targeted at the lower end, and the E2open TMS, which includes the Amber Road solution, is targeted on the higher end.

**Manhattan Associates**

Manhattan Associates (Manhattan) is a Leader in this Magic Quadrant. Manhattan offers WMS, transportation management, distributed order management (DOM), supply chain planning and supplier enablement. It offers all the above capabilities on a single technical platform and has upgraded its DOM, and more recently its WMS, to a microservices architecture. All functional capabilities share a UI, data model and common tools, such as a rule engine, across the suite. Manhattan continues to grow its multitenant cloud platform with a growing international footprint. Manhattan's TMS is mainly used in the retail, grocery, wholesale distribution and manufacturing industries. Manhattan's TMS offering is best-suited for Level 3 to Level 4 transportation operations, but it can be used in up to Level 5 operations in certain situations.

**Strengths**

- **Product or Service:** Manhattan continues to provide a broad, deep and powerful TMS, including strong modeling and robust last-mile vehicle routing and scheduling (VRS) with a brand new user experience.

- **Offering (Product) Strategy:** The TMS is part of a common SCE/logistics platform that includes WMS, yard management system (YMS), TMS and DOM, some of which are already on a composable architecture. Manhattan has also expanded its technology partnerships and implementation partnerships.

- **Innovation:** Manhattan continues the development of its TMS, witnessed by added rate management capabilities, strong procurement capabilities and a new fleet dispatch solution.
Cautions

- **Geographic Strategy:** Manhattan’s customer base outside of the Americas trails behind the other Leaders quadrant companies, but it has doubled down on its marketing and sales efforts to enable growth in regions outside of the Americas.

- **Offering (Product) Strategy:** Although Manhattan’s domestic capabilities are among the most powerful, it is trailing the other Leaders in international capabilities.

- **Sales Execution/Pricing:** Manhattan has fewer customers and closes fewer deals compared to the other Leaders in this Magic Quadrant.

**MercuryGate**

MercuryGate is a Challenger in this Magic Quadrant. MercuryGate TMS is best-suited for Level 1 to Level 4 transportation, and may scale to Level 5. MercuryGate has more than 450 customers, most of which are North America-based, and in the last year, it has made a concerted effort to grow in Europe. The majority of its customers use MercuryGate to initiate and manage shipments with multinational legs. MercuryGate TMS supports shippers of all sizes, with growth in large shippers (freight under management of $50 million or greater) now accounting for 60% of its customers. More than half of its customers are 3PL, carrier and brokerage sectors. In the shipper sector, MercuryGate has a strong presence in retail, manufacturing, wholesale, food and grocery. MercuryGate focuses on partnerships with digital freight models to offer customers real-time pricing and capacity.

**Strengths**

- **Vertical/Industry Strategy:** MercuryGate TMS has a broad customer base across shippers, 3PL providers, carrier and broker segments. It is one of few TMS vendors that span a broad customer industry base.

- **Business Model:** MercuryGate put in place a new leadership team with strong experience in logistics and an increased focus on driving and improving customer experience.

- **Product or Service:** MercuryGate TMS continues to focus on partnerships and is one of the Leaders in the TMS market with regard to partnerships with digital freight platforms.

**Cautions**

- **Geographic Strategy:** Although growth in Western Europe accounted for almost 18% of the company’s total growth in 2020, MercuryGate TMS still has not fully capitalized on growth in the European and APAC markets. Mercury needs to leverage its global product capabilities into greater presence in non-North American markets.

- **Operations:** MercuryGate’s average implementation and deployment time is longer than others. Reducing deployment time is an area of focus for MercuryGate in 2021.

- **Customer Experience:** MercuryGate TMS was scored one of the lowest scores on customer experience based on customer feedback and reviews, with 58% of reviewers being willing to recommend the
solution to others, for the 12-month period before publication of this Magic Quadrant.

Oracle

Oracle is a Leader in this Magic Quadrant. Oracle is a global application megasuite vendor and the largest TMS vendor in terms of revenue. The Oracle Transportation Management (OTM) Cloud customer base remains evenly spread across the world, with customers across 22 different verticals. Industrial manufacturing, natural resources, automotive, consumer goods, high tech and logistics service providers are some of the leading industries that OTM serves. Oracle has a broad ecosystem of network and visibility partners as well as implementation partners that can provide support to global and more specialized regional OTM implementations. OTM is well-suited for organizations with transportation operation levels between Level 2 and Level 5.

Strengths

- **Sales Strategy:** Oracle has a large customer base for TMS, which continues to grow at a faster rate than the other Magic Quadrant vendors.
- **Geographic Strategy:** Oracle continues to have one of the broadest distribution of customers across different geographies, with a strong ecosystem of regional partners for implementation.
- **Vertical/Industry Strategy:** Oracle has one of the broadest footprints across multiple industries among the vendors in this Magic Quadrant, mainly due to its breadth and depth of product offering.

Cautions

- **Operations:** OTM has a vast array of features and functionalities that can make implementation complex, as witnessed by a few clients commenting on complexity of implementation.
- **Innovation:** Compared to previous years and compared to other vendors, Oracle provided less innovation in its product this year.
- **Product or Service:** Oracle's network modeling capabilities are not as fully realized when compared to others, as confirmed by several prospective customers.

RateLinx

RateLinx is a Niche Player in this Magic Quadrant. RateLinx’s TMS, ShipLinx, is most suitable for Level 1 to Level 3 transportation operations but may be able to scale to Level 4. ShipLinx primarily operates in North America, with smaller presence in Europe, South America and APAC. ShipLinx has a strong presence in small and midsize organizations within retail, wholesale and utilities (energy). RateLinx’s approach is focused on carrier compliance and data cleansing as part of its integrated data services. RateLinx offers freight pay and audit, as well as visibility to add onto ShipLinx, leveraging RateLinx’s additional solutions, PayLinx and TracLinx.

Strengths
■ **Product or Service:** ShipLinx is a part of a service set offered by RateLinx that allows customers to leverage more capabilities within one solution. In addition to ShipLinx TMS, customers can leverage parcel management, PayLinx for freight payment, RateLinx for rating and TracLinx for visibility.

■ **Product or Service:** RateLinx is heavily focused on data and analytics. The company is focused on using data and analytics to help TMS customers automate some decisions and processes.

■ **Product or Service:** Usability and simplicity are a strength for ShipLinx TMS, allowing customers to easily manage and use the tools.

### Cautions

■ **Product or Service:** RateLinx’s technology partner network is small compared to the other vendors included in this Magic Quadrant.

■ **Geographic Strategy:** RateLinx’s customer base operates primarily in the U.S. RateLinx has yet to fully capitalize on the growing European and Asian markets.

■ **Product or Service:** ShipLinx remains best-suited for organizations in Level 1 to Level 2 transportation complexities. Although the TMS can support higher levels of transportation complexity, the depth of some optimization and planning capabilities is still behind other leading TMSs.

### SAP

SAP is a Leader in this Magic Quadrant. SAP TM is best-suited for Level 3 and Level 4 transportation operations and can scale to Level 5. SAP’s largest customer base is in Europe, but it supports a large number of customers in all geographic locations. SAP customers are primarily midsize to large enterprises with the majority having annual freight spends in excess of $250 million. SAP TM supports customers across all major industries, with specific focus on consumer products, agriculture/mining/construction, chemical and retail. In 2020, SAP increased the connections to visibility and digital freight networks within the SAP Logistics Business Network. Additional focus was placed on usability and advanced planning capabilities.

### Strengths

■ **Geographic Strategy:** SAP has one of the most diverse geographic customer bases of the vendors on this Magic Quadrant. It is one of the few vendors that have a large presence in South America.

■ **Overall Viability:** SAP is a leader in both product and business viability among the vendors in this Magic Quadrant. SAP TM has a track record of strong growth and product development.

■ **Product or Service:** SAP TM has strong capabilities, specifically in the areas of performance management and analytics and community management. SAP continued to improve and develop a much better user interface and user experience.

### Cautions
Shipwell is a Niche Player in this Magic Quadrant. Shipwell primarily operates in North America, with smaller presence in Europe and APAC. It is mainly used by midsize enterprise organizations in the food and beverages, manufacturing and retail business. Shipwell has a large network of carriers onboarded in the platform — more than 30,000 carriers integrated via electronic logging device (ELD) connection, including refrigerated, FTL, LTL, parcel, ocean, drayage, last-mile and courier fleets. The system offers all TMS core capabilities and allows the automation of workflows in multiple modes of transportation, while also providing real-time visibility. Shipwell is best-suited for Level 1 through Level 3 transportation operations.

**Strengths**

- **Customer Experience:** Shipwell scored in the top half for both user experience and implementation or integration tools due to the ease offered by the solution to both use and integrate. Reviews on Gartner Peer Insights supported this, showing above-average scores on an overall peer rating, but also in integration and deployment, as well as service and support.

- **Product or Service:** Shipwell offers real-time visibility as part of its base TMS offering through carrier network, ELD integrations and mobile applications. It also provides real-time capacity through its broad carrier network and partnerships with digital freight models.

- **Operations:** Shipwell is one of a few TMS providers that offer a fully managed solution. Many of Shipwell’s customers leverage it for managed services on top of the technology.

**Cautions**

- **Geographic Strategy:** Although Shipwell has existing customers in Europe and Asia/Pacific, it has not fully capitalized on growth in these markets. It has, however, indicated that it will be focused on increasing international capabilities and solutions.

- **Offering (Product) Strategy:** Although Shipwell does have an extensive domestic U.S. carrier network, currently there is no strong international carrier network developed. This is an area of focus for the future, however.
Transplace

Transplace is a Challenger in this Magic Quadrant. The Transplace TMS is suitable for Level 1 and Level 2 transportation operations but is best-suited for Level 3 and Level 4 and can scale to Level 5. Transplace is primarily focused on North America, with growing operations in Europe. Transplace TMS customers range in size from very small to large enterprises. Transplace TMS supports customers across a large number of industries, with specific focus in the consumer products, chemical and industrial manufacturing sectors. Transplace TMS manages a network of more than $11 billion in freight under management. In June 2020, Transplace acquired ScanData, a multicarrier parcel management solution, to enhance its extended TMS capabilities.

Strengths

- **Product or Service:** Transplace has strong capabilities in the areas of performance management and analytics, as well as visibility. Its inclusion of real-time visibility as part of its core product is a differentiator.

- **Business Model:** The continued commitment to offering a fully managed solution is a differentiator for Transplace. It is one of only a few TMS vendors in this Magic Quadrant to offer this capability.

- **Offering (Product) Strategy:** Transplace has remained aggressive on building out extended TMS capabilities. Its acquisition of ScanData enables it to offer additional capabilities for the growing parcel shipping need. Transplace also acquired LeanCor in 2020 to broaden its offerings.

Cautions

- **Geographic Strategy:** Transplace continues to increase its focus on geographic expansion, but it still trails most vendors on this Magic Quadrant in terms of geographic expansion.

- **Operations:** Transplace currently does not have partnerships with implementation and system integrators. Customers outside North America should evaluate Transplace’s local implementation and integration capabilities.

- **Customer Experience:** Transplace received a lower rating for customer experience. This was supported by reviews from Gartner Peer Insights in the area of service and support. This was specifically for the quality of technical support.

Trimble (Kuebix)

Kuebix, a Trimble company, is a Challenger in this Magic Quadrant. Kuebix TMS continues to experience rapid growth, reaching more than 25,000 customers. Kuebix TMS primarily operates in the U.S., providing service to a range of industries, but has a focus on manufacturing/distribution, chemical, food and beverage, and e-commerce/retail. The addition of Kuebix to Trimble allows an opportunity for a more global reach, access to a broader carrier network, digital freight platform partnerships and visibility.
Kuebix offers additional products and services, including yard management and managed transportation services. Kuebix TMS is most suitable for Level 1 to Level 4 transportation.

**Strengths**

- **Customer Experience**: Kuebix scored within the top two vendors on its technology and usability, agility and adaptability. This was reflected in Gartner Peer Insights customer reviews indicating high scores in many capability categories, particularly in the areas of freight management, rate and contract management, and carrier management.

- **Offering (Product) Strategy**: Kuebix TMS offers high levels of usability and adaptability with easy integrations.

- **Product or Service**: Leveraging tools within Trimble's portfolio has enabled Kuebix to improve on its carrier network and analytics and visibility capabilities in 2020.

**Cautions**

- **Geographic Strategy**: Despite the Trimble acquisition and more global go-to-market access, Kuebix has yet to fully capitalize on the growing European and Asian markets.

- **Customer Experience**: The UI and interface experience between modules and function can still look segmented between Trimble and Kuebix. It is an area of focus to streamline the user experience.

- **Customer Experience**: Kuebix TMS remains best-suited for organizations in Level 1 to Level 3 transportation complexities. Although the TMS can support higher levels of transportation complexity, the depth of some international and domestic extended capabilities is still behind other leading TMSs.

**Vendors Added and Dropped**

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

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**Added**

The following vendors were added because they met the qualifications listed in the Inclusion and Exclusion Criteria section:
Dropped
3G did not meet the minimum of five customers outside its home geographical region specified in the Inclusion and Exclusion Criteria section.

Inclusion and Exclusion Criteria
To be included in this TMS Magic Quadrant, a vendor must offer:

- **A credible, holistic multimodal TMS offering:** This must be a credible, holistic multimodal TMS product, with live customers and vision for shipper or non-asset-based 3PL, 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 — if 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 to and used by the buyer, independent of other services offered by the vendor.
  - The vendor must meet one of the following:
    - Previous fiscal-year multimodal TMS license revenue (only license/subscription and services associated with packaged TMS implementations) is at least $10 million or at least $10 million per year in hosted/SaaS TMS subscription revenue. Combined TMS license and service revenue must be greater than $20 million.
    - Subscription and service revenue greater than $10 million for the previous fiscal year.
    - A three-year compound annual customer and revenue growth rate of at least 20%. This is because customer and revenue growth are reliable indicators of vendor momentum and sustainability.

- **Current and active TMS customers:**
  - The vendor must meet all of the following:
    - Have at least 20 live multimodal TMS customer references independently and holistically using the TMS solution being evaluated
Due to end-user demand for evaluations of other significant vendors’ TMS offerings, we also consider inclusion of TMS vendors that meet one of the following criteria, even if the offering does not meet the initial TMS-specific criteria:

- **Global presence:** The vendor must have TMS customer references in at least two of the following geographic regions: U.S./Canada, Latin America, Western Europe, Eastern Europe, the Middle East and Africa (MEA), and Asia/Pacific (APAC). The vendor must have a minimum of five customers outside of its home geographical region. The vendor must be able to implement and support customers in those other regions.

- **Cross-industry presence:** The vendor has new and existing TMS customers in at least three industries. Examples include 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.
All solutions in this Magic Quadrant support basic Level 2 and Level 3 (see Note 1) transportation operations 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 supply chain execution (SCE) convergence

- **Depth of the TMS**, as demonstrated by 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, Europe and, to a lesser extent, Asia/Pacific

- **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 Magic Quadrant. Although these vendors did not qualify for this research, they may offer a TMS solution that would be well-suited to the needs of a specific company.

**Honorable Mention**

**3G**: 3G’s TMS solution, 3Gtms, includes many of the core capabilities, such as route planning and optimization, execution, brokerage, visibility, and settlement. In February 2020, 3G announced its acquisition of Pacejet, a multicarrier parcel management solution mainly focused on the midsize market, rebranded to 3G Pacejet. 3G serves mainly the North American market. 3G targets mostly midsize and large 3PL providers, brokers and midmarket shippers, providing capabilities for organizations dealing with third-party carriers and private fleets. 3G’s focus is in logistics service providers (LSPs), 3PL providers and the broker industry, followed by consumer products and the food and beverage industries.

**CTSI-Global**: CTSI-Global offers a SaaS TMS solution, called Honeybee TMS, that allows companies to manage all aspects of its inbound and outbound transportation network. The TMS gives users the ability to manage and control inbound/outbound orders; optimize loads; select the best carriers; tender shipments; manifest parcel, less than truckload (LTL) and truckload; track progress; and manage claims. CTSI-Global has customers in a variety of industries but has a focus on retail, life science, logistics service providers and 3PL providers. In addition to its TMS solution, CTSI-Global also offers freight audit
and payment and managed services. CTSI-Global did not qualify for the TMS Magic Quadrant based on the revenue criteria.

**Transporeon Group:** Transporeon Group (Transporeon) is a Europe-based specialist TMS with a large carrier network and digital freight model partners, all integrated in its transportation cloud. In 2020, Transporeon acquired ControlPay, a Netherlands-based freight audit and service provider, and merged with Sixfold to offer visibility to all Transporeon customers. Transporeon focuses on the food and beverage, fast consumer goods, construction, chemical and metal/steel industries among other industries. Its TMS is best-suited for Level 2 to Level 3 transportation operations. Transporeon did not meet the product criteria for the Magic Quadrant as it lacked the planning/optimization capability, which is a core capability of a holistic multimodal domestic TMS.

**Evaluation Criteria**

**Ability to Execute**

Gartner analysts evaluate technology providers on the quality and efficacy of the processes, systems, methods or procedures that enable the technology provider performance to be competitive, efficient and effective, and to positively impact revenue, retention and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their vision:

- **Product or Service:** Core goods and services offered by the technology provider that compete in/serve the defined market. This includes, for example, current product/service capabilities, technical architecture, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria. The components evaluated will be operational transportation planning, execution, tactical planning, strategic planning, visibility, freight payment and audit, parcel management, asset-based planning and execution, rating and tariff management, and dock and yard capabilities.

- **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 of the individual business unit to continue investing in the product, offering the product and advancing the state of the art within the organization's portfolio of products. This will also consider product and vendor risks.

- **Sales Execution/Pricing:** The technology providers’ 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 provider's history of responsiveness.

- **Marketing Execution:** The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message in order 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, 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. This also considers the vendor’s ability to support the most complex transportation environments from a solution and service perspective. 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 and service-level agreements.

- **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.

### Table 1: Ability to Execute Evaluation Criteria

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

Source: Gartner (March 2021)

### Completeness of Vision

Gartner analysts evaluate technology providers on their ability to convincingly articulate logical statements about current and future market direction, innovation, customer needs, competitive forces and how well they map to the Gartner position. Ultimately, technology providers are rated on their understanding of how market forces can be exploited to create opportunity for the provider.
Market Understanding: Ability of the technology provider to understand buyers’ needs and translate these needs into products and services. Vendors that show the highest degree of vision listen and understand buyers’ wants and needs, and can shape or enhance those wants with their added vision. This market understanding will also evaluate each vendor’s strategy for the emerging trend of business process platforms (BPPs), service-oriented architectures (SOAs) and solution ecosystems, as well as the continuing convergence of supply chain execution capabilities.

Marketing Strategy and Sales 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 globally selling a product 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: A technology provider’s approach to product, design, architecture, development and delivery that emphasizes differentiation, functionality, methodology, usability, and feature set as they map to current and future TMS/SCE requirements.

Business Model and Vertical/Industry Strategy: The soundness and logic of providers’ underlying business propositions. This is a vendor’s vision for global expansion and how it will address the nuances of key verticals differentiates offerings in certain markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or preemptive purposes. Innovation will focus on the vendor’s vision for extending the depth and reach of core TMS solutions to offer new, enhanced or different ways to manage transportation processes and provide greater business value. This will look to identify areas where capabilities are ahead of the commercialization and commoditization curves.

Geographic Strategy: The technology provider’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. This will also look at vendors’ abilities to support global transportation requirements beyond core TMS functionality.
Table 2: Completeness of Vision Evaluation Criteria

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

Source: Gartner (March 2021)

Quadrant Descriptions

Leaders

Leaders have a compelling vision and a reliable Ability to Execute. Leaders in the TMS market have a 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 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 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 important, their customers look to them for thought leadership, and they establish symbiotic relationships.

Key Characteristics:

- Broad and deep TMS offering
- Proven success in Level 3 and Level 4 transportation networks
- Participation in a high percentage of new deals
- A strong and consistent track record
- Consistent performance and vigorous client growth and retention
- Enduring visibility in the marketplace from both sales and marketing perspectives
- Proven ecosystem of partners
- Global scale

**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 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.

Key Characteristics:

- Capable, proven and mature TMS, with numerous live customers
Visionaries have a compelling vision for achieving a differentiated position in the TMS market, possess 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 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. At a minimum, solutions in the Visionaries quadrant fall into one of two broad categories. They can be established TMS offerings that have yet to mature into leading positions in the market, or they can be innovative specialist vendors with unique and potentially disruptive views of where the market is going. These vendors can exhibit innovation in TMS products, services or go-to-market and deployment strategies, but lack in other areas.

Key Characteristics:

- Coherent, compelling, and innovative strategy that seeks to deliver a robust and vibrant offering to the market
- Thought leader in one or more TMS solution dimensions that tend to be on the leading edge of emerging concepts
- Yet to demonstrate an ability to handle a broad range of complex user requirements
- Execution gaps or lacking global scale
- Innovation in TMS products, services, go-to-market, and vertical or deployment strategies

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.

Key Characteristics:

- Focus primarily on a geography or industry
- Generally, not a differentiated offering, although it can have some unique capabilities
- Not yet well-established and visible in the market
- Not a broad or deep TMS
- Market momentum and product or company viability that is possibly in question
- Lacking in SCE convergence

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, Market Guide for Multicarrier Parcel Management Solutions, Hype Cycle for Supply Chain Execution Technologies, 2020 and Warehousing and Fulfillment Vendor Guide.)

This research focuses specifically on a holistic multimodal TMS in which a company routinely uses multiple modes of shipping, such as full truckload (FTL), less than truckload (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, where 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), but now a wide variety of shippers routinely use multiple shipping modes. (See Gartner’s Model for Holistic Multimodal Transportation Management Systems — Part 1: Core Capabilities and Gartner’s Model for Holistic Multimodal Transportation Management Systems — Part 2: Extended Capabilities.) All 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, and their ability to deploy outside North
America and provide 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.

In this research, we refer to the different levels of complexity that vendors support. See Note 1 for an explanation of the five different levels of TMS complexity.

**Market Overview**

TMS vendors continue to invest in expanding the breadth and depth of their TMS suites as well as 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. These include 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.

The evolutionary expansion of the depth and breadth of TMS offerings improves the value proposition for TMSs. Enhancements in freight procurement, analytics, 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. This value is beyond the traditional boundaries of better load planning and electronic freight tendering. During the past several years, Gartner has seen notable investments in specific areas. These areas include the integration of asset-based and for-hire freight management on a single platform, improvements in depth and flexibility of transportation performance management, continued expansion of capabilities to support global logistics, transportation procurement, and more capabilities to support LSPs and 3PL companies.

**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 normal and ongoing relationships with user and vendor clients.
Note 1: The Five Levels of TMS Complexity

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 from 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. These can be broken down into five system levels — from the simplest to the most sophisticated and advanced.

Level 1: Fragmented

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 helps determine if an order goes parcel/next day or LTL. 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 TMSs provide more dynamic selection of modes and carriers while focusing on improving the shipment-tendering process. However, Level 2 TMSs typically support a minimal number of modes (for example, truckload and LTL), 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. We also see more modes (parcel, LTL, 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, intra-enterprise and outbound shipments in a single planning and execution environment. Level 4 TMSs have 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. This is 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.

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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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Recommended by the Authors

Macro Trends Affecting the Transportation Management System Market
How to Select the TMS, Provider and Solution Best Suited for Your Strategic Capabilities
Key Considerations for Supply Chain Leaders Evaluating Transportation Management Systems
How to Calculate the ROI for a Transportation Management System Project
Toolkit: RFP Template for Transportation Management Systems

Toolkit: Build a Solid TMS Business Case to Gain Approval

Building the TMS Case: Define Your Key Arguments for a Transportation Management System

Gartner's Model for Holistic Multimodal Transportation Suites

Hype Cycle for Supply Chain Execution Technologies, 2020

How Markets and Vendors Are Evaluated in Gartner Magic Quadrants

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