

# Supply Chain Operational Visibility Vendor Guide

**Published:** 7 November 2019   **ID:** G00387970

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This research provides a compendium of the operational visibility solutions categories and providers that Gartner covers. Supply chain technology leaders can use this research to help develop a comprehensive supply chain visibility technology portfolio strategy.

## Key Findings

- Supply chain visibility alone does not provide value. The availability and transparency of more accurate data can lead to more robust and intelligent decision making across the end-to-end network. Therefore, visibility capabilities are embedded in broader supply chain applications.
- Visibility capabilities for supply chain operations remain diverse and the number of vendors is increasing exponentially. SCM suite providers offer visibility capabilities within portfolios of solutions, specialist providers specialize in particular functional areas and innovative companies bring new, value-added capabilities like artificial intelligence to market.
- Although some areas of supply chain visibility — such as global logistics visibility — are more mature, this solution area remains a source of ongoing innovation, especially in the area of real-time visibility driven by continuous intelligence.
- Gartner sees a trend emerging toward the convergence of traditional applications supporting functions or domains, improving support for end-to-end business processes as well as end-to-end supply chain visibility.

## Recommendations

Supply chain technology leaders responsible for operational supply chain visibility initiatives should:

- Develop a visibility technology portfolio strategy by focusing on functional requirements and business value, not what vendors and/or solutions you currently have in your portfolio.
- Identify the different segments in the visibility market by using this research to categorize and investigate both suite and targeted offerings.

- Gain the benefits of incrementally improved capabilities without high, upfront costs by maximizing the value of your technology portfolio. Consider a range of cloud deployment options more narrowly focused (point) solutions or, where appropriate, embedded intelligence on top of the visibility foundation.

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## Strategic Planning Assumption

By 2024, at least 75% of top 50 global companies will have implemented supply chain business networks in support of end-to-end supply chain visibility.

## Analysis

This research starts with giving a broader view of the supply chain application market and setting the stage that visibility capabilities are to be found across the whole spectrum. Then we dive into what supply chain visibility is — the specific aspect of operational visibility — the definition and its different characteristics, use cases, and technology options. The core part of this note then defines the market segments of operational visibility and lists more than 200 vendor solutions along those.

## Supply Chain Management Applications Market

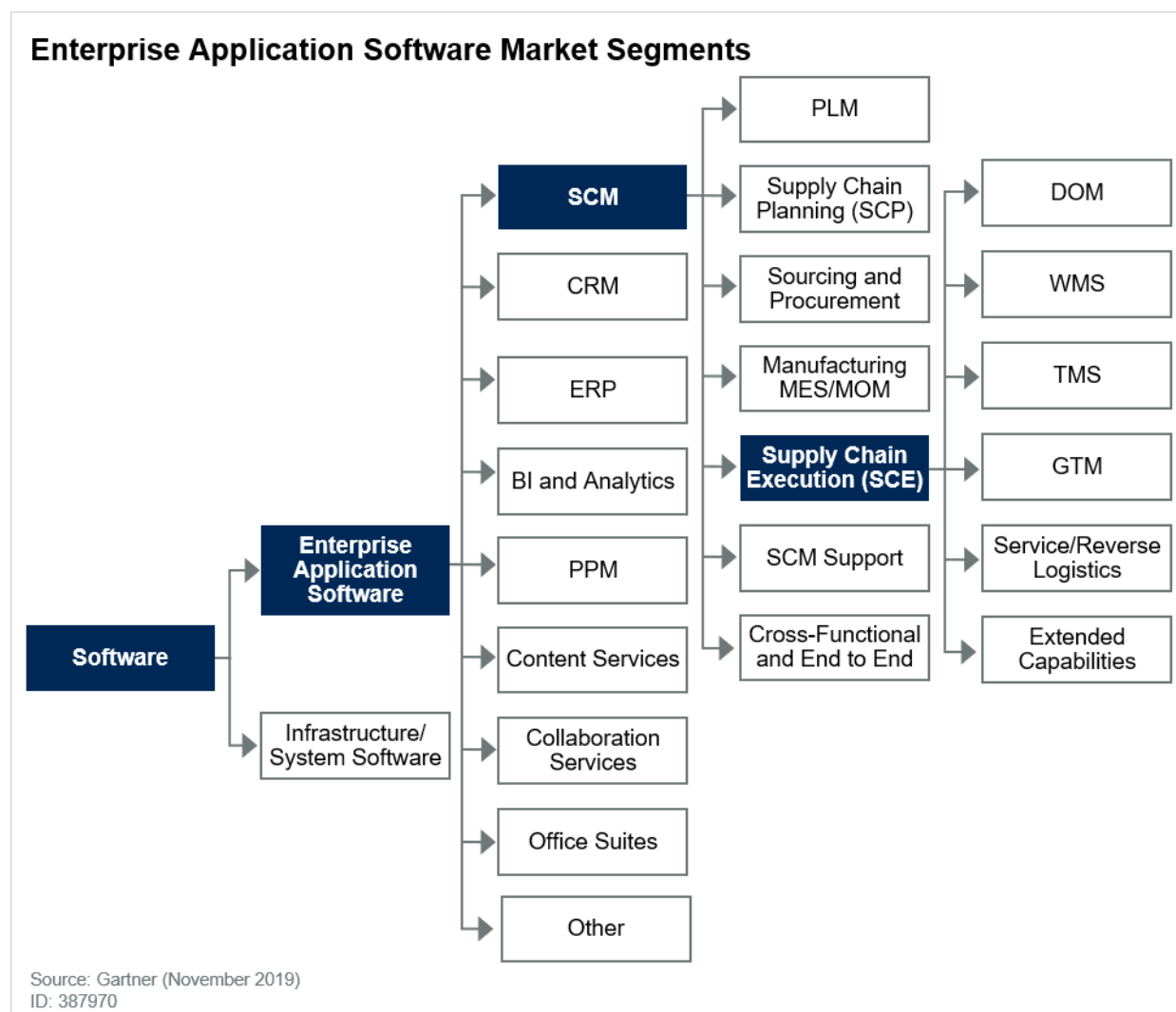
The focus for application software is to increase the performance of business or personal resources. It enables users to leverage the power of computers toward achievement of their business, professional or personal objectives or goals. Enterprise application software can be segmented into nine domains, one being supply chain management (SCM). The SCM application market then breaks down into broad application categories aligned with the Supply Chain Operations Reference (SCOR) model of plan, source, make, deliver, service and new product introduction as well as supporting and cross-domain, horizontal functions. (See “Explore and Understand Gartner’s Supply Chain Management Applications Stack.”)

The SCM application markets are extremely diverse — from large-scale suite providers offering portfolios of solutions, to niche providers specializing in particular areas such as last-mile visibility, to innovative solution providers with new value-added capabilities in the area of prediction and automation, for example.

Supply chain execution (SCE) is then a subset of the broader SCM market, and functional domains, e.g., warehousing and fulfillment (W&F), are a subset of SCE. W&F solutions focus on the transactional activities of storing, processing and managing goods across an increasingly distributed network of locations (see “Warehousing and Fulfillment Vendor Guide”). This can include, but is not limited to, an individual or group of warehouses or warehouse campuses and distribution centers as well as various alternative storage locations, such as stores or small-sized inventory depots. Another major part — aka functional domain — of SCE is transportation, represented with a variety of solutions around transportation management systems (TMS), as well as global trade management (GTM), distributed order management (DOM) and service/reverse logistics.

Figure 1 below gives an overview of Gartner’s point of view on the software market with special emphasis on supply chain management within the enterprise application software segment. Note that this reflects only one flavor on how the market is segmented; here it is the aspect on market share and forecast statistics (see “Market Share: Supply Chain Management Software, Worldwide, 2018”).

Figure 1. Enterprise Application Software Market Segments



Now supply chain visibility is about everywhere. It could provide data-driven insights within a specific domain and can evolve toward the end-to-end, cross-functional view, the process orchestration of source, make, deliver in a business network setup.

## Supply Chain Visibility

Providing visibility is a core part of supply chain technology and it plays a complementary function that supports different supply chain functions such as transportation management, warehouse management, yard management and fleet management. Again, the main purpose for SCE, next to the other subcategories as listed above, is to *fulfill orders (procurement and sales), manage inventories and move or deliver products (components and finished ones)*. Next to those core, domain-specific functional capabilities, cross-functional and end-to-end visibility gains momentum. It is about multiple business partners being connected and involved in the process, upstream from,

for example, suppliers and contract manufacturers to downstream; distributors and customers and in between; and service providers and carriers.

Hereby supply chain visibility is “a capability that provides controlled access and transparency to accurate, timely and complete data and events within and across organizations and services to support effective execution of supply chain operations.” Here it excludes insights within the four walls of a company; manufacturing and warehousing functions as an example.

### Why Visibility Now?

Organizations have increasing demands for real-time, or at least near-real-time, visibility into their orders, multimodal shipments and inventory across a network of business partners, both stationary and in transit. This visibility might apply for both, upstream from brand owners to their suppliers, contract manufacturers and service providers, and downstream from brand owners to their distribution centers, distributors, service providers and ultimately customers. They ask questions such as:

- Where is my order/shipment?
- Is it according to plan or is there a disruption?
- What will be an accurate estimated time of arrival (ETA)?
- In what state/condition is my shipment?
- Do I meet regulatory/governmental requirements?
- Where and in what status is my inventory?
- Is my supply chain working profitably?
- Are there any external risk factors impacting/might impact my supply chain?

Supply chain technology leaders should consider the following scenarios when looking for operational visibility:

- Is it the brand owner seeking to increase visibility, or are the requests coming from service providers, suppliers, customers or brokers?
- Is it the end-to-end view with the integration of several processes (and relevant partners and data objects) where insight is required? Does it include the relationship of multiple business partners in a multitier setup and the linkage of different data objects along the extended chain — including the processes of source, make and deliver?

- Are insights into logistics and transportation a specific need (aka visibility) or are there even some unique requirements, such as to comply with regulations (aka traceability)?

Dependent on the users and the scope of the visibility needed, the requirements, the desired outcome and the solutions may be very different (see “Smart Insights for the Real-Time Transportation Visibility and Monitoring Solution Market”). Some solution vendors focus on a particular user, some on a specific visibility segment and some on multiple users and segments. But all vendors offer business applications with a comprehensive collection of capabilities — with visibility itself a foundational capability and part of the offering but not available as a stand-alone function. Finally, visibility is not a capability that is immediately established but is a journey companies must undertake to receive the benefits that visibility provides.

### Visibility, the What!

Visibility has several aspects to consider which we would like to summarize below in the “eight supply chain visibility attributes”:

- **1. Context** — Visibility (“see it”) is a foundational capability which then allows to understand and leverage signals from the digital ecosystem (“process it”), manage exceptions and intelligently respond (“act on it”) as well as continuously learn (“learn from it”).
- **2. Adoption** — Increasing supply chain visibility adoption is no longer a “nice to have” for any organization, no matter the size, geography or industry. Supply chain visibility use now goes across a multitude of vertical industries, use-case segments and geographies. The latest Gartner’s 10th Annual SCM Technology User Wants and Needs Study indicates that the top-funded supply chain initiative is about visibility and traceability across the end-to-end supply chain with business intelligence/analytics to enhance decision making coming in at No. 3.
- **3. Coverage** — It is about understanding where things are along this process, the status of orders, even in which state are shipments. This could start in the domain of sourcing and procurement, proceeds within the inbound process including multiple business partners, then within the company along yard, warehouse, shop-floor, distribution center. It finishes with the fulfillment toward the customer again including a variety of business partners. Visibility is also a core part of logistics technology. It plays a complementary function that supports transportation management, warehouse management, yard management and fleet management (see “Real-Time Transportation Visibility Platforms Provide Transportation Leaders With Supply Chain Efficiencies”).
- **4. Control** — From a control perspective, visibility could be divided on one hand into a controlled environment, such as inventory or work orders within the four walls or the enterprise. On the other hand, it could be divided into an uncontrolled environment, such as shipments in motion with a change in ownership of external business partners along the journey.
- **5. Implications** — Customers and brand owners are demanding better visibility, with the following impacts driving this:
  - The “consumer” tracking experience now expected in enterprises.

- Traditional electronic data interchange (EDI) being antiquated technology (as this mainly provided milestone, rather than real-time, updates).
- More accurate delivery dates and times required, providing more confidence and optimal planning (real-time ETA calculation with automated communication and back-office system integration).
- **6. Objects** — Insights come along a large number of different objects, updated by different partners or triggered through events along the end-to-end supply chain and could include the following:
  - Forecast — sales channel (for example, consumer, distributor and reseller).
  - Inventory — at supplier/contract manufacturer, distributor, customer, service provider, but also in-house at the brand owner or work in progress (WIP), in transit and in quality.
  - Order — procurement, sales, work, schedule agreement.
  - Shipment — road, rail, air, marine, parcel, international/intermodal, domestic, last mile.
  - Packing — packing, labeling.
  - Transport — positioning and/or conditioning.
  - Notification — advanced shipping notification (ASN), proof of delivery (POD).
  - Capacity — supplier, contract manufacturer, brand owner's own capacities or even logistics capacities by service providers.
  - Risk — financial, operational, compliance.
  - Finance — invoice, approval, cost, price.
  - Resources — workforce.
- **7. Criteria** — When selecting visibility capabilities/solutions, different criteria could be considered depending on the actual use case (such as different requirements along modes of transportation and what to track):
  - Enterprise (plant, factory and warehouse) vs. multienterprise (including business partners) visibility.
  - Asset (truck, trailer, container, cage) tracking vs. product tracking.
  - Shipment (load) tracking vs. product (down to box and SKU) tracking.
  - Real-time tracking (for example, every 15-minute updates) vs. milestone insights.
  - Data capture via track boxes/RFID, fixed vs. variable deployment.
  - Positioning tracking vs. conditioning tracking (for example, temperature, humidity, pressure, unauthorized opening and damage).
  - Single transportation mode vs. multimode coverage.

- Domestic vs. international.
- Visibility only (data visualization) vs. visibility plus advanced capabilities (predictions, intelligence, corrective action).
- **8. Architecture** — The technical architecture of most of the offerings is cloud, providing a multitenant, open SaaS platform managed by the provider on a subscription-based pricing model. This also includes tight integration options to other core business systems in order to allow a closed-loop integration between supply chain planning, ERP and supply chain execution.

Supply chain visibility and intelligent decision support across the extended value chain allow companies to minimize risk, increase efficiency and capitalize on opportunities, allowing supply chain organizations to leverage the anticipated business value.

## Market Segments and Representative Vendors

There are many forms of visibility; for the purpose of this research, we:

- Focus on operational visibility covering supply chain operations with the primary focus to fulfill orders, manage inventories (outside the enterprise) and move or deliver products.
- Put special emphasis on the multienterprise over the enterprise aspect, the involvement of multiple business partners along the process.
- Include insights for the data objects of order, shipment, transport and further inventory and risk.

One has also to recognize that supply chain visibility alone does not provide value. It is all about leveraging data-driven insights for smart decision making. And utilizing a variety of applications on the platform, more specifically the “deliver” one with additional “supporting” ones, all aligned to supply chain operations. Finally, more recently some vendors have started to extend their solution portfolio and although they might have had their origins in a specific mode or visibility model, their offerings may now include several of the segments (see Tables 1 and 2).



Table 1. Solution Categories and Key Characteristics in Operations

TYPE	CATEGORY	COVERAGE	UPDATE	USE CASE
Multienterprise supply chain business networks	Operations	End-to-end supply chain	Milestone System to platform/suite integration	Networkwide end-to-end visibility with closed-loop integration of source/make/deliver processes, including multiple business partners; about the “health” of the supply chain
International/multimodal logistics and transportation platforms	Operations	Deliver/multimodal, international transportation	Milestone System to platform integration	International multimodal shipment insights; as part of TMS offerings or independent
Real-time transportation visibility platforms	Operations	Deliver/domestic transportation	Real time (Fixed) Device to platform integration	Domestic, predominant mode-specific, real-time in-transit shipment insights (location, eventually temperature monitoring)
Tracking and monitoring tools	Operations	Inventory and transportation (multimodal)	Real time (Variable) Device to tool integration	In-transit shipment and inventory insights at the product (or asset) level — domestic and international, position and condition; the process of monitoring and tracking, identifying locations of inventory items
Other	Operations	Specialty	Diverse	Visibility for specific use cases and/or industries involving multiple business partners and integration options

Source: Gartner (November 2019)

Table 2. Solution Categories and Key Characteristics in Support

TYPE	CATEGORY	COVERAGE	UPDATE	USE CASE
Procurement suites	Support	Procure/international	Milestone Within platform	Insights into order statuses and spend analysis
Supply chain risk tools	Support	External	Real time Within tool	Insights into several risk categories, from static to dynamic, for integration and utilization in SCM platforms
Intelligence tools	Support	End to end	Diverse	Data lake with business intelligence on top

Source: Gartner (November 2019)

Note that the segment of *traceability* (with other terms used like “track and trace” or even “track and trace and serialization”) is not part of this vendor guide.

- Traceability is about promoting visibility, eliminating risk and increasing responsiveness across every stage of the chain of custody, often driven by regulatory compliance requirements. For example, traceability allows features such as streamlined product recalls or rerouting based on a lot, batch or manufacturing location (see “Market Guide for Track-and-Trace and Serialization Providers in Life Sciences and Healthcare Value Chain” and “Supply Chain Reference Model for Track and Trace and Serialization Across the Healthcare Value Chain”).
- Traceability is becoming a critical requirement for enabling product tracing, real-time responsiveness and extended visibility across all stages of sourcing, production, distribution and consumption (see “Plan and Prepare for a Responsive Product Recall Across the Supply Chain”). The ability to generate an audit log that tracks and verifies the transactional flow gives the perspective on the networkwide value chain from a company’s suppliers’ supplier to its customers’ customer along all stages of the supply chain — source, make and deliver.

In this research, we strive to include as many solution providers as we are aware of and have some knowledge about what they offer. This lasted in about 200 vendors listed! And providers might fall into multiple categories. Here we assigned a *provider only once* depending on his heritage and/or major coverage area/client references. This does not mean that this is an exhaustive list of every possible provider that might offer solutions in the areas covered. Furthermore, this is not intended to be a qualitative analysis of providers. Readers should make no judgment about a provider simply because they are, or are not, included in this research.

### Category: Operations

## Multienterprise Supply Chain Business Networks

*Provided by: Christian Titze*

Gartner defines the multienterprise supply chain business network (MESCBN) market as follows (see: “Magic Quadrant for Multienterprise Supply Chain Business Networks” and “Industry Context: ‘Magic Quadrant for Multienterprise Supply Chain Business Networks’”):

“Multienterprise supply chain business networks support a community of trading partners — of any tier and type within an industry-leading network — that need to work and communicate/collaborate on business processes that extend across multiple enterprises, with an end-to-end and shared focus. Such solutions provide their community with

multienterprise functionality, services and security with special emphasis on supply chain visibility and executional processes.”

MESCBNs provide the network foundation and a broad set of application functions. They not only provide operational visibility but end-to-end supply chain visibility covering all functional domains and connecting to business partners within and across the organization (beside the broader end-to-end platforms we also see industry-specific networks in the market). Yet having operational visibility as a core element provides data-driven insights on a variety of data objects as basis for intelligent decision making (see Table 3).

Table 3. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE
AEB	<a href="http://www.aeb.com">www.aeb.com</a>
Aptos	<a href="http://www.aptos.com">www.aptos.com</a>
Bamboo Rose	<a href="http://www.bamboorose.com">www.bamboorose.com</a>
BluJay	<a href="http://www.blujaysolutions.com">www.blujaysolutions.com</a>
Centiro	<a href="http://www.centiro.com">www.centiro.com</a>
Dassault Group (Dassault Systèmes)	<a href="http://www.dassault.fr/en/?">www.dassault.fr/en/?</a>
E2open	<a href="http://www.e2open.com">www.e2open.com</a>
Elementum	<a href="http://www.elementum.com">www.elementum.com</a>
Elemica	<a href="http://www.elemica.com">www.elemica.com</a>
Exostar	<a href="http://www.exostar.com">www.exostar.com</a>
GHX	<a href="http://www.ghx.com">www.ghx.com</a>
IBM (Sterling)	<a href="http://www.ibm.com">www.ibm.com</a>
Infor (Nexus)	<a href="http://www.infor.com">www.infor.com</a>
iTrade	<a href="http://www.itradenetwork.com">www.itradenetwork.com</a>
Jabil	<a href="http://www.jabil.com">www.jabil.com</a>
MP Objects (MPO)	<a href="http://www.mp-objects.com">www.mp-objects.com</a>
Neogrid	<a href="http://www.neogrid.com">www.neogrid.com</a>
One Network Enterprises	<a href="http://www.onenetwork.com">www.onenetwork.com</a>
OpenText	<a href="http://www.opentext.com">www.opentext.com</a>
Siemens Digital Logistics	<a href="http://www.siemens-digital-logistics.com">www.siemens-digital-logistics.com</a>
SPS Commerce	<a href="http://www.spscommerce.com">www.spscommerce.com</a>
SupplyOn	<a href="http://www.supplyon.com">www.supplyon.com</a>
TESISQUARE	<a href="http://www.thesisquare.com">www.thesisquare.com</a>
TraceLink	<a href="http://www.tracelink.com">www.tracelink.com</a>

VENDOR (SOLUTION)	WEBSITE PRESENCE
Trace One	<a href="http://www.traceone.com">www.traceone.com</a>
TrueCommerce	<a href="http://www.truecommerce.com">www.truecommerce.com</a>
Veeco International	<a href="http://www.veccointl.com">www.veccointl.com</a>

Source: Gartner (November 2019)

## International/Multimodal Logistics and Transportation Platforms

*Provided by: Bart DeMuynck*

This segment of logistics and transportation platforms predominantly serves international transportation use cases with emphasis on multimodal needs (air, rail, ocean, road). Similar to business networks, they provide a technology platform with the features of a network, logistics applications and community, yet having a narrower coverage compared to multienterprise business networks (see Table 4).

These platforms offer capabilities for supply chain operations, covering visibility and then an array of logistics/transportation management applications:

- One occurrence would be a comprehensive TMS which would provide visibility as integrated part of the offering. Here, TMS suites can include all transportation management functions across multiple modes (depending on the level of complexity), including strategic planning, strategic freight sourcing and procurement, planning and execution, visibility and performance management and freight payment and audit capabilities. In the subsegment of execution it includes things like transportation execution and carrier communication/collaboration, event management and real-time visibility (or partnerships with visibility platforms).
- Or beside a TMS, it could be a more generic software for freight and transport management including shipment insights.

Table 4. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE
3Gtms	<a href="http://www.3gtms.com">www.3gtms.com</a>
3T Logistics	<a href="http://www.3t-europe.com">www.3t-europe.com</a>
Alpega Group (inet)	<a href="http://www.alpegagroup.com">www.alpegagroup.com</a>
Alpega Group (Transwide)	<a href="http://www.alpegagroup.com">www.alpegagroup.com</a>
C.H. Robinson (TMC)	<a href="http://www.chrobinson.com">www.chrobinson.com</a>
CTSI-Global	<a href="http://www.ctsi-global.com">www.ctsi-global.com</a>
DDS Logistics	<a href="http://www.ddslogistics.com">www.ddslogistics.com</a>
Descartes Systems Group	<a href="http://www.descartes.com">www.descartes.com</a>
EyeFreight	<a href="http://www.eyefreight.com">www.eyefreight.com</a>
FreightPOP	<a href="http://www.freightpop.com">www.freightpop.com</a>
Freightview	<a href="http://www.freightview.com">www.freightview.com</a>
Generix Group	<a href="http://www.generixgroup.com">www.generixgroup.com</a>
HighJump	<a href="http://www.highjump.com">www.highjump.com</a>
InMotion Global	<a href="http://www.inmotionglobal.com">www.inmotionglobal.com</a>
INTERLOG	<a href="http://www.interloggroup.com">www.interloggroup.com</a>
JDA Software	<a href="http://www.jda.com">www.jda.com</a>
Kuebix	<a href="http://www.kuebix.com">www.kuebix.com</a>
LOG-NET	<a href="http://www.log-net.com">www.log-net.com</a>
Manhattan Associates	<a href="http://www.manh.com">www.manh.com</a>
MercuryGate	<a href="http://www.mercurygate.com">www.mercurygate.com</a>
nVision Global	<a href="http://www.corporate.nvisionglobal.com">www.corporate.nvisionglobal.com</a>
Oracle	<a href="http://www.oracle.com">www.oracle.com</a>
oTMS	<a href="http://www.otms.com">www.otms.com</a>
Pagero	<a href="http://www.pagero.com">www.pagero.com</a>

VENDOR (SOLUTION)	WEBSITE PRESENCE
Quantum Asia	<a href="http://www.quantumasia.in">www.quantumasia.in</a>
Ramco Systems	<a href="http://www.ramco.com">www.ramco.com</a>
RateLinx	<a href="http://www.ratelinx.com">www.ratelinx.com</a>
ShipHawk	<a href="http://shiphawk.com">shiphawk.com</a>
SupplyStack	<a href="http://www.supplystack.com">www.supplystack.com</a>
TMSfirst	<a href="http://www.tmsfirst.com">www.tmsfirst.com</a>
Transplace	<a href="http://www.transplace.com">www.transplace.com</a>
Transporeon	<a href="http://www.transporeon.com">www.transporeon.com</a>
Unifaun	<a href="http://www.unifaun.com">www.unifaun.com</a>
vTradEx	<a href="http://www.vtradex.com">www.vtradex.com</a>
WiseTech Global	<a href="http://www.wisetechglobal.com">www.wisetechglobal.com</a>

Source: Gartner (November 2019)

## Real-Time Transportation Visibility Platforms

*Provided by: Bart DeMuynck*

When it comes to physical domestic transportation, customers are demanding more real-time visibility into in-transit shipments. “Last-mile visibility” has had a lot more emphasis as of late than long haul over the road freight delivery. We also see last mile for inbound scenarios where the flow of inbound products to manufacturing or distribution sites needs to be tracked better to ensure production schedules are met, increasing efficiency of the loading/unloading process and decreasing congestion in the yards. And it does not stop for over-the-road insights; several solutions are now expanded into other transportation modes. Solutions are nowadays also providing a real-time end-to-end experience combined with intelligence (see Table 5).

Gartner defines the real-time transportation visibility platform (RTTVP) market as follows (see “Market Guide for Real-Time Visibility Providers”):

“Real-time transportation visibility platforms (RTTVPs) provide commercial customers and consumers with real-time insights into their orders and shipments once they have left the brand

owner's or service provider's warehouse. Such platforms, owned and managed by third-party software vendors, represent a subsegment of the overall end-to-end supply chain visibility market, predominantly — but not solely — addressing the domestic road transportation mode. RTTVPs obtain data through integration (e.g., API, EDI) with carrier systems, direct feeds from telematics (e.g., in-cab or trailer devices) or other devices (e.g., mobile or smartphone).”

A growing number of carriers have onboard devices that enable extended data capture of the tractor (or in cab) and sometimes even the trailer (tractor/trailer scenario), providing real-time carrier information to the shipper/brand owner and third-party logistics (3PL) community.

Telematics and mobility solutions have penetrated the over-the-road carrier industry due to government mandates and more affordable technologies. In the past few years, several companies that specialize in domestic visibility have entered the market. These companies can be labeled as third-party, real-time transportation visibility platforms. They provide real-time information on shipments based on interaction with the carriers (via the carrier's back-end systems or via the driver).

These solutions do not compete with transportation management systems (TMSs). Instead, they complement the planning and executional capabilities of the TMSs with real-time visibility. Also, one should differentiate between the modes of transportation as capabilities and vendors are different. The domestic road requires real-time monitoring; however, that is not the goal for rail or ocean cargo. Excluded here are also solutions for measuring asset performance (for example, truck) as well as driver behavior, which of course also relates to real-time aspects.



Table 5. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE
Agistix	<a href="http://www.agistix.com">www.agistix.com</a>
Autoplant System India	<a href="http://www.autoplant.in">www.autoplant.in</a>
Blume Global	<a href="http://www.blumeglobal.com">www.blumeglobal.com</a>
Convey	<a href="http://www.getconvey.com">www.getconvey.com</a>
e4score	<a href="http://www.gete4score.com">www.gete4score.com</a>
Everysens	<a href="http://www.eversens.com/en">www.eversens.com/en</a>
FarEye	<a href="http://www.getfareye.com">www.getfareye.com</a>
Farewell	<a href="http://www.farewell.today">www.farewell.today</a>
FourKites	<a href="http://www.fourkites.com">www.fourkites.com</a>
FreightVerify	<a href="http://www.freightverify.com">www.freightverify.com</a>
G7 Solutions	<a href="http://esodbyg7.com">esodbyg7.com</a>
GoComet	<a href="http://www.gocomet.in">www.gocomet.in</a>
Konexial	<a href="http://www.konexial.com">www.konexial.com</a>
LaneAxis	<a href="http://www.laneaxis.com">www.laneaxis.com</a>
LoadTap	<a href="http://www.loadtap.com">www.loadtap.com</a>
Descartes MacroPoint	<a href="http://www.macropoint.com">www.macropoint.com</a>
MapLarge	<a href="http://www.maplarge.com">www.maplarge.com</a>
nuVizz	<a href="http://www.nuvizz.com">www.nuvizz.com</a>
Pro Alliance	<a href="http://www.proalliance.io">www.proalliance.io</a>
project44	<a href="http://www.project44.com">www.project44.com</a>
Roper Technologies (IntelliTrans)	<a href="http://www.intellitrans.com">www.intellitrans.com</a>
TRATON (RIO)	<a href="http://www.traton.com">www.traton.com</a>
Shippeo	<a href="http://www.shippeo.com">www.shippeo.com</a>

VENDOR (SOLUTION)	WEBSITE PRESENCE
Sixfold	<a href="http://www.sixfold.com">www.sixfold.com</a>
Sphere	<a href="http://www.sphereinc.com">www.sphereinc.com</a>
Synfioo	<a href="http://www.synfioo.com">www.synfioo.com</a>
Trimble-10-4 Systems	<a href="http://www.trimble.com">www.trimble.com</a>
Trucker Tools	<a href="http://www.truckertools.com">www.truckertools.com</a>
Truckstop.com	<a href="http://www.truckstop.com">www.truckstop.com</a>
Turvo	<a href="http://www.turvo.com">www.turvo.com</a>
Wakeo	<a href="http://www.wakeo.co">www.wakeo.co</a>

Source: Gartner (November 2019)

## Tracking & Monitoring Tools

*Provided by: Andrew Stevens*

In-transit shipment and product/inventory insights at the product and/or cargo level as well as asset insights — domestic and international — are referred to as operational/logistics and transportation tracking and monitoring. This includes:

- Position but often also condition monitoring such as temperature, humidity, shock, unauthorized opening and others. Basically, it is the process of identifying current (so present or near present) locations of inventory items.
- Next to the use case of product tracking and monitoring as described above, we also see this emerging for assets (for example, cages, containers).
- The market offers, on one hand, software-only tools and then, on the other, one solution combining hardware and software with the provided hardware being an integral part to the success and value of the software.
- From a technology perspective, technology/devices to capture the data for operational tracking and monitoring requirements are:
  - Track boxes and tags of variable nature; they need to be supplied to the source of supply chain and retrieved at its destination. There are a variety of solutions available depending on the actual requirements with vendors offering own devices on top of the tool or that are device-independent.
  - RFID/near-field communication (NFC) tags; different types of RFID attached to a pallet, box, cage, product item.

The ability to generate a log that tracks and verifies the transactional flow gives the perspective on the logistics flow from a company's suppliers' supplier and then toward its customers' customer (see Table 6).

Table 6. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE
AKUA	<a href="http://www.akua-inc.com">www.akua-inc.com</a>
Arviem	<a href="http://www.arviem.com">www.arviem.com</a>
Bionix	<a href="http://www.bionixsolutions.com">www.bionixsolutions.com</a>
CAEN RFID	<a href="http://www.caenrfid.com">www.caenrfid.com</a>
CargoGuard	<a href="http://www.cargoguard.com">www.cargoguard.com</a>
Expeditors International (Cargo Signal)	<a href="http://www.cargosignal.com">www.cargosignal.com</a>
Cogiscan	<a href="http://www.cogiscan.com">www.cogiscan.com</a>
Controlant	<a href="http://www.controlant.com">www.controlant.com</a>
Emerson-PakSense	<a href="http://www.climate.emerson.com">www.climate.emerson.com</a>
Entropy	<a href="http://www.entropy.com">www.entropy.com</a>
eProvenance	<a href="http://www.eprovenance.com">www.eprovenance.com</a>
GAO RFID	<a href="http://www.gaorfid.com">www.gaorfid.com</a>
GS1	<a href="http://www.gs1.org">www.gs1.org</a>
Honeywell	<a href="http://www.honeywellaidc.com">www.honeywellaidc.com</a>
Impinj	<a href="http://www.impinj.com">www.impinj.com</a>
Infineon	<a href="http://www.infineon.com">www.infineon.com</a>
iTriangle Infotech	<a href="http://www.itriangle.in">www.itriangle.in</a>
Litum Technologies	<a href="http://www.litum.com">www.litum.com</a>
Promega (Terso Solutions)	<a href="http://www.tersosolutions.com">www.tersosolutions.com</a>
S4GV	<a href="http://www.s4gv.com">www.s4gv.com</a>
Savi	<a href="http://www.savi.com">www.savi.com</a>
SCTracker	<a href="http://www.sctracker.com.br">www.sctracker.com.br</a>
SecureRF	<a href="http://www.securerf.com">www.securerf.com</a>
Smartrac	<a href="http://www.smartrac-group.com">www.smartrac-group.com</a>

VENDOR (SOLUTION)	WEBSITE PRESENCE
Sendum	<a href="http://www.sendum.com">www.sendum.com</a>
Tego	<a href="http://www.tegoinc.com">www.tegoinc.com</a>
Temptime	<a href="http://www.temptimecorp.com">www.temptimecorp.com</a>
Thinfilm	<a href="http://www.thinfilmmfc.com">www.thinfilmmfc.com</a>
Tive	<a href="http://www.tive.co">www.tive.co</a>
Vero Solutions	<a href="http://vero.solutions">vero.solutions</a>
Vizinex RFID	<a href="http://www.vizinexrfid.com">www.vizinexrfid.com</a>
Wipro	<a href="http://www.wipro.com">www.wipro.com</a>

Source: Gartner (November 2019)

## Other

*Provided by: Christian Titze*

There are several other solutions providing operational visibility, which cannot be directly linked to the above-listed segments and use cases, yet serving specific visibility requirements. Below we listed them together with the vendors' key value proposition (see Table 7).

Table 7. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE	VALUE PROPOSITION
20Cube	<a href="http://www.20cube.com">www.20cube.com</a>	Logistics company providing services in freight forwarding, custom clearance and warehousing. The MyHub technology platform provides real-time alerts of key events along international trade flows
Activ	<a href="http://www.activtech.com">www.activtech.com</a>	Solution providing real-time visibility on forecasts, inventory, capacity and orders to shipments and logistics to manage, optimize and automate supply, demand, and logistics networks in real time
Adjuno	<a href="http://www.adjuno.com">www.adjuno.com</a>	Retail supply chain transparency, improving visibility, reducing friction, encouraging collaboration and ensuring compliance across the trading network
Airspace Technologies	<a href="http://www.airspacetechnologies.com">www.airspacetechnologies.com</a>	Delivery network streamlining the courier process by automatically providing system-generated pickup/delivery information, optimal routing options and notifying stakeholders
Apptricity	<a href="http://www.apptricity.com">www.apptricity.com</a>	Internet of Things (IoT)-enabled inventory management platform offering a combination of cloud-based positioning and on-premises scanning equipment for inventory tracking that integrates with ERP systems
Aptean	<a href="http://www.aptean.com">www.aptean.com</a>	Suite of applications addressing ERP, MES; GTM and compliance requirements with the SCM product allowing end-to-end visibility across the network
Aqxolt	<a href="http://www.axxolt.com">www.axxolt.com</a>	Supply chain and inventory management cloud platform for logistics and shipment tracking of supply chain distribution operations
ArrowStream	<a href="http://www.arrowstream.com">www.arrowstream.com</a>	Supply chain visibility platform for product spend and inventory levels at distribution centers; does cleanse, merge and map data from supply chain partners into a single view for actionable advise
CargoSmart	<a href="http://www.cargosmart.ai">www.cargosmart.ai</a>	Solution provider for ocean shipping and logistics, helping shippers leverage the latest technologies and innovative solution development methods to gain enhanced shipments visibility
CargoValue	<a href="http://www.cargovalue.com">www.cargovalue.com</a>	Platform providing customers with a complete overview of their scheduled and ongoing cargo flow and linked to the inventories across all terminals and commodities
DSI	<a href="http://www.dsiglobal.com">www.dsiglobal.com</a>	Holistic cloud inventory platform, providing single point to manage inventory, streamline supply chain operations and gain global visibility

VENDOR (SOLUTION)	WEBSITE PRESENCE	VALUE PROPOSITION
EverySens	<a href="http://www.eversens.com">www.eversens.com</a>	Predictive rail freight tracking platform, providing end-to-end visibility for industrial logistics <sup>4</sup>
Freightgate	<a href="http://www.freightgate.com">www.freightgate.com</a>	Logistics management platform offering transportation management solutions for shippers, carriers and freight forwarders
FreightPath	<a href="http://freightpath.io">freightpath.io</a>	Platform for transportation operations, allowing seamless downstream order fulfillment by centralizing booking, tracking (shipment tracker), and documentation
Global eTrade Services (GeTS)	<a href="http://globletrade.services">globletrade.services</a>	Supply chain platform for the orchestration of physical logistics, compliance and financial requirements of global trade
Gravity Supply Chain Solutions	<a href="http://www.gravitysupplychain.com">www.gravitysupplychain.com</a>	Integrated supply chain management software for shipment tracking, purchase order management and real-time supply chain visibility for logistic providers and retailers
iContainers	<a href="http://www.icontainers.com">www.icontainers.com</a>	Platform for ocean freight management and real-time shipment status
LiveSource	<a href="http://www.livesource.com">www.livesource.com</a>	Inbound insights for direct spend, from supplier certification statuses to last-minute BOM updates. Allows to connect all the moving parts and adapt quickly to change
Lumatrak	<a href="http://www.lumatrak.com">www.lumatrak.com</a>	Blending internal enterprise purchase information (ERP, strategic sourcing, and SCM) plus project plans with supplier and contractor order fulfillment status to provide on-time delivery control for indirect spend
MarginPoint	<a href="http://www.marginpoint.com">www.marginpoint.com</a>	Inventory management and visibility platform for the service management industry from consumption to requisition to replenishment
ME Engineering M2M	<a href="http://www.me-engineering-m2m.de">www.me-engineering-m2m.de</a>	Visibility and transportation management platform for enabling transparent supply chains between shippers, carriers and customers
Circle (Milos)	<a href="http://www.circletouch.eu">www.circletouch.eu</a>	Modular solution for the transport optimization of containers, trailers, cars and general cargo through the logistic intermodal chain; focus on automated port logistics and customs procedures
MIXMOVE	<a href="http://www.mixmove.io">www.mixmove.io</a>	Modular cloud logistics solution for real-time track and trace along all means of transportation
Nulogy	<a href="http://www.nulogy.com">www.nulogy.com</a>	Platform for tracking, order management and product customization for external contract packaging providers, helping late-stage customization with operational agility

VENDOR (SOLUTION)	WEBSITE PRESENCE	VALUE PROPOSITION
Ocean Insights	<a href="http://www.ocean-insights.com">www.ocean-insights.com</a>	Platform for ocean freight information for the logistics industry; container sailing schedules and container track and trace
OnProcess Technology	<a href="http://www.onprocess.com">www.onprocess.com</a>	Platform to optimize the postsale value chain (including reverse logistics), digitizing and streamlining business processes
PearlChain	<a href="http://www.pearlchain.net">www.pearlchain.net</a>	Operational platform combining planning and execution capabilities through real-time scheduling along industry process blueprints
Railinc	<a href="http://www.railinc.com">www.railinc.com</a>	Solutions for railroads, equipment owners, shippers and suppliers along every link of their supply chain to manage and analyze rail traffic
Surgere	<a href="http://www.surgere.com">www.surgere.com</a>	Automotive industry's supply chain management system to deliver visibility and control between OEMs, their suppliers and transportation service providers
Transport Exchange Group	<a href="http://www.transportexchange.com">www.transportexchange.com</a>	End-to-end freight visibility with the Freight Vision platform allowing real-time visibility and analytics of carrier performance, customer SLAs, lanes and compliance
Yellowstar	<a href="http://www.yellowstar.com">www.yellowstar.com</a>	Logistics software for supply chain management, visibility and collaboration
Zetes	<a href="http://www.zetes.com">www.zetes.com</a>	Solution portfolio for supply chain management including real-time transportation visibility and real-time performance insights across the connected supply chain

Source: Gartner (November 2019)

## Category: Support

### Procurement Suites

*Provided by: William McNeill*

Gartner defines P2P suites as follows (see: "Magic Quadrant for Procure-to-Pay Suites"):

"Procure-to-pay (P2P) suites are sets of integrated solutions supporting processes that may be termed 'transactional' or 'operational' procurement. They have automated workflows to



request, procure, receive and pay for goods and services across an enterprise. They are marketed as suitable solutions for processing, at a basic level, all the various types of spending — indirect goods, direct goods and services spending.”

P2P suites optimize the purchasing process, resulting in improved financial controls, process compliance, cost savings (or cost avoidance) and mitigated risk. They deliver four primary capabilities, namely: e-purchasing, access to catalog content, e-invoicing, and accounts payable invoice automation.

For the purpose of this research and in context to operational visibility, procurement suites extend insights beyond core operations defined as fulfilling orders, managing inventories and moving or delivering products. They provide insights into areas such as procurement order status/progress, inventory management, supplier and spend management (see Table 8).

Table 8. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE
Allocation Network	<a href="http://www.allocation.net">www.allocation.net</a>
BuyerQuest	<a href="http://www.buyerquest.com">www.buyerquest.com</a>
Comarch	<a href="http://www.comarch.com">www.comarch.com</a>
Coupa	<a href="http://www.coupa.com">www.coupa.com</a>
Determine	<a href="http://www.determine.com">www.determine.com</a>
Esker	<a href="http://www.esker.com">www.esker.com</a>
Expensing	<a href="http://www.expensing.com">www.expensing.com</a>
GEP	<a href="http://www.gep.com">www.gep.com</a>
Ivalua	<a href="http://www.ivalua.com">www.ivalua.com</a>
JAGGAER	<a href="http://www.jaggaer.com">www.jaggaer.com</a>
Mercado Eletrônico	<a href="http://www.me.com.br">www.me.com.br</a>
OpusCapita	<a href="http://www.opuscapita.com">www.opuscapita.com</a>
Proactis	<a href="http://www.proactis.com">www.proactis.com</a>
SAP (Ariba and Fieldglass)	<a href="http://www.ariba.com">www.ariba.com</a> and <a href="http://www.fieldglass.com">www.fieldglass.com</a>
Synertrade	<a href="http://www.synertrade.com">www.synertrade.com</a>
Tradeshift	<a href="http://www.tradeshift.com">www.tradeshift.com</a>
VORTAL	<a href="http://En.vortal.biz">En.vortal.biz</a>
Xeeva	<a href="http://www.xeeva.com">www.xeeva.com</a>
Wax Digital	<a href="http://www.waxdigital.com">www.waxdigital.com</a>
Workday	<a href="http://www.workday.com">www.workday.com</a>
Zycus	<a href="http://www.zycus.com">www.zycus.com</a>

Source: Gartner (November 2019)

## Supply Chain Risk Tools

End-to-end supply chain risk management (E2E SCRM) aims to make businesses resilient to supply chain risks across the physical and digital aspects of the business ecosystem. In a global network, complex interdependencies can make detection and impact analysis of key risks challenging. Mitigating these risks also requires action across multiple partners in the network and good tracking of outcomes to bolster accountability (see Table 9).

Such tools allow operational mitigation of and response to disruptions. It is strengthened by technology when data-sharing platforms are used for risk identification and coordinated operational response management.

**Table 9. Sample List of Vendors**

VENDOR (SOLUTION)	WEBSITE PRESENCE
Achilles	<a href="http://www.achilles.com">www.achilles.com</a>
Aravo	<a href="http://www.aravo.com">www.aravo.com</a>
DHL Resilience360	<a href="http://www.resilience360.dhl.com">www.resilience360.dhl.com</a>
ETQ	<a href="http://www.etq.com">www.etq.com</a>
Halo	<a href="http://www.halobi.com">www.halobi.com</a>
m-risk	<a href="http://www.m-risk.com">www.m-risk.com</a>
Resilinc	<a href="http://www.resilinc.com">www.resilinc.com</a>
riskmethods	<a href="http://www.riskmethods.net">www.riskmethods.net</a>
Sourcemap	<a href="http://www.sourcemap.com">www.sourcemap.com</a>
SupplyShift	<a href="http://www.supplyshift.net">www.supplyshift.net</a>

Source: Gartner (November 2019)

## Intelligence Tools

Such tools leverage a data lake with data captured from multiple data sources, internal and external, structured and unstructured. On top of this lake, analytics and artificial intelligence capabilities are used to deliver predictive visibility and further prescriptive automation/resolution. Here, the focus is centered around tools providing insights into supply-chain-specific data objects of order, inventory and transport, being just one of many use cases for those tools (see Table 10).

Table 10. Sample List of Vendors

VENDOR (SOLUTION)	WEBSITE PRESENCE	VALUE PROPOSITION
ACSIS	<a href="http://www.acsisinc.com">www.acsisinc.com</a>	Cloud platform that transforms data from edge devices, legacy systems and new technologies into actionable insights for more strategic decision making in the operational supply chain
ActiveViam	<a href="http://www.activeviam.com">www.activeviam.com</a>	An analytical suite that supports operational decisions such as staging of inventory across distribution centers or customer locations to ensure maximum on-shelf availability while minimizing inventory holding
Aera	<a href="http://www.aeratechnology.com">www.aeratechnology.com</a>	Cognitive data crawling platform delivering end-to-end, real-time insights for uncovering opportunities and recommendation within supply chain management
Alloy	<a href="http://www.alloy.ai">www.alloy.ai</a>	Data platform (data capture, cleaned, connected and harmonized for use) powering analytics, forecasting and planning; serving as a single source of truth for cross-functional teams across the organization
Atheon	<a href="http://www.atheonanalytics.com">www.atheonanalytics.com</a>	Visual analytics platform for the retail industry, collecting and analyzing data on SKU level for better retailer relationships and organizational performance
aThingz	<a href="http://www.athingz.com">www.athingz.com</a>	Data quality and master data management solution with artificial intelligence for transportation and logistics; providing contextual supply chain insights, alerts and recommendations for data quality improvements
ClearMetal	<a href="http://www.clearmetal.com">www.clearmetal.com</a>	Artificial intelligence (AI)-driven platform for continuous monitoring and planning for transportation lead time, mode, carrier and route selection to ensure on-time delivery, reduce buffer stock and expediting costs
Cloudleaf	<a href="http://www.cloudleaf.com">www.cloudleaf.com</a>	AI-driven solution using sensors, cloud and machine learning for continuous visibility into assets and workflows. Visibility is assembled through location, condition, quantification, time and travel path
Cognite	<a href="http://www.cognite.com">www.cognite.com</a>	Platform for industrial data capture and analysis, contextualizing data and presenting it as an operational digital twin as basis for apps development
Conduce	<a href="http://www.conduce.net">www.conduce.net</a>	Operational intelligence platform for supply chain, sitting at the top of any technology stack and serving as the universal user interface for all disparate systems
Genpact	<a href="http://www.genpact.com">www.genpact.com</a>	AI-powered command center for supporting accurate decision making in complex supply chains; visibility and control to supply chain performance across the plan, source, make, and deliver functions

VENDOR (SOLUTION)	WEBSITE PRESENCE	VALUE PROPOSITION
myLOGISTICZ	<a href="http://www.mylogisticz.com">www.mylogisticz.com</a>	Analytics-driven, technology-agnostic business solution based on IoT for supply chain management
OpsVeda	<a href="http://www.opsveda.com">www.opsveda.com</a>	AI-driven platform collecting internal and external business events for continuous monitoring and analysis to deliver predictive visibility and prescriptive automation toward opportunities, risks and exceptions across multiple enterprise functions
OmPrompt	<a href="http://www.omprompt.com">www.omprompt.com</a>	Cognitive multienterprise collaboration solution for the operational supply chain, supporting the automation of O2C and P2P processes
OptimalPlus	<a href="http://www.optimalplus.com">www.optimalplus.com</a>	Life cycle analytics platform for the automotive and semiconductor manufacturing industry allowing visibility across the supply chain
SAS	<a href="http://www.sas.com">www.sas.com</a>	Analytics software and solutions for data exploration, analysis and visualization in support of functions such as quality control, optimal service, supply chain planning and customer loyalty
TransVoyant	<a href="http://www.transvoyant.com">www.transvoyant.com</a>	Platform analyzing big data event streams toward risk behavior and predictive insights across all modes and nodes of a supply chain; providing visibility on inventory, operations and customers within the business ecosystem
Vitria	<a href="http://www.vitria.com">www.vitria.com</a>	Operational intelligence platform for supply chain management powered by streaming analytics

Source: Gartner (November 2019)

## Gartner Recommended Reading

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

“Smart Insights for the Real-Time Transportation Visibility and Monitoring Solution Market”

“Market Guide for Real-Time Visibility Providers”

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