THINKING TMS

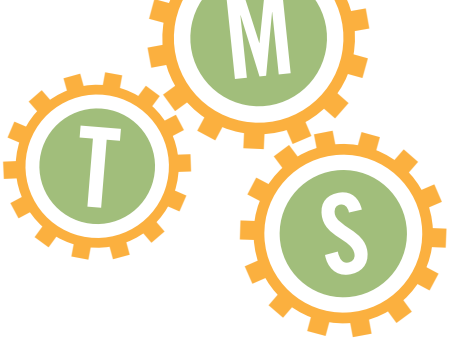
As the transportation management systems market broadens, and as software delivery options expand, businesses increasingly have TMS on the brain.

by John Edwards

JIM LOWDER IS ALWAYS THINKING ARBY'S. That's because, as the fast food chain's director of quality assurance, he's responsible for the condition of the food products delivered to the company's 3,600 stores.

He also thinks a lot about transportation management systems (TMS) because he believes they play a critical role in ensuring that Arby's stores receive the ingredients for their sandwiches, salads, desserts, and other menu offerings in optimal condition.

Lowder isn't the only business manager who spends time pondering TMS tools. As the number of offerings grows and software delivery options expand, the market is becoming increasingly complex. This complexity is causing managers at businesses in a variety



of industries to think hard about TMS technologies and the role they can play in organizing and managing transportation networks.

"Any company that ships product is a likely TMS candidate," says Adrian Gonzalez, who analyzes the TMS market for the ARC Advisory Group, a research firm based in Dedham, Mass.

"Most small companies start out managing transportation manually, with spreadsheets and other paper-based systems," he notes. "But as companies grow, they eventually find they can't get away with a simple solution–not if they want to stay cost competitive and meet service-level requirements."

A Common Thread

The TMS market surpassed the $1-billion mark for the first time in 2006, and is poised to grow at least seven percent in 2007 based on ARC's year-to-date results (*see chart, page 50*). "The TMS market has grown faster than predicted the past two years," Gonzalez says.

The TMS market is fueled by continued demand for global trade management solutions, a reinvigorated market for fleet management solutions, and increased sales to logistics service providers (LSPs). Gonzalez also points to strong activity in Europe and in the small- and mid-size business (SMB) segment as additional growth motivators. The TMS market will exceed $1.5 billion by 2011, representing a compounded annual growth rate of 7.3 percent, ARC predicts.

As TMS sales grow, vendors are reaching out to customers in an ever-expanding number of industries, ranging from retailers to heavy manufacturers–even carriers and 3PLs.

"Historically, TMS solutions have been geared toward manufacturing or retail environments, but now 3PLs and carriers are also looking for software applications to help them manage transportation," Gonzalez says.

While they are a diverse group, TMS buyers share one thing in common: the need to tie together the loose ends of their transportation infrastructure. TMS applications and modules are now available for tracking and managing just about every aspect of a company's transportation infrastructure, including vehicle maintenance, carrier selection, accounting, cargo care and handling, fuel costing, routing and mapping, and vehicle communications.

"All types of businesses can use TMS, but it's most appealing to high-volume, complex scenario companies," says Kevin Harrison, senior solutions consultant for RedPrairie, Waukesha, Wisc.

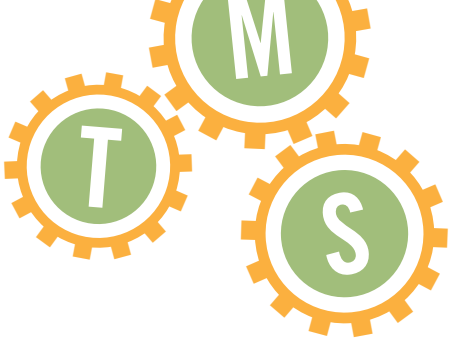
Overwhelming Choices

The TMS options facing businesses are snowballing and can easily become overwhelming, says Joe Martha, a vice president at Booz Allen Hamilton, a McLean, Va.-based global business consulting firm. Besides choosing from among the myriad areas TMS products now cover, businesses also face the choice of buying into a comprehensive TMS suite–capable of covering a spectrum of logistics-oriented tasks–or acquiring individual stand-alone applications and knitting them into their own TMS.

"TMS is not just a big, integrated solution," Martha says. "Some companies might need only one or two types of applications."

Ultimately, the decision of whether to implement a full suite or a point

TMS solutions offered by vendors such as RedPrairie help businesses manage all aspects of transportation, including routing and mapping.



solution boils down to knowing just how much TMS technology a company needs. While most businesses have a good fix on their TMS goals, Martha warns that vendors often try to sway prospective customers into buying software with functions they will rarely–or perhaps never–use.

With any TMS software, but key products in particular, it's important to determine the quality of the program's output. Because vendors need to serve companies with varied and flexible needs, it can be tough for them to get a single product to work reliably under all conditions.

One major challenge Martha sees with large TMS suites, for instance, is their inability to handle different cost structures–such as managing an internal fleet vs. handling an outside carrier. "Some TMS vendors find it difficult to handle both cost structures effectively," he says.

Arby's to Go

For Lowder, cold chain management is a critical way of ensuring food quality, so he needed a point solution to address this particular challenge.

"Arby's does not own or operate manufacturing facilities or distribution centers, and we don't haul our own products," he says. "But we do specify systems to our supply chain partners."

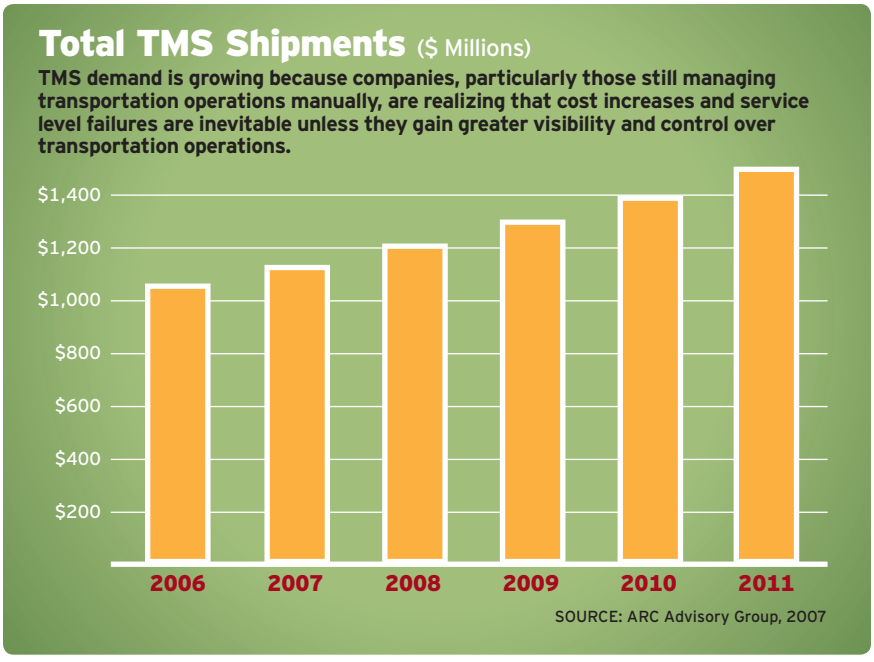
For example, Arby's requires many of its logistics partners to use the Personal Information Management Monitor (PIMM) from Procuro, a TMS vendor based in San Diego.

PIMM is designed to help SMBs manage various operational resources, says Vincent P. Gordon, Procuro's chairman and CEO. Using various types of probes, PIMM can monitor operational devices inside vehicles, facilities, and warehouses to ensure that environmental conditions are maintained, surveillance devices are operational, and plant equipment is running within specified limits.

PIMM is similar in concept to an online chat program, using a buddy list to manage digital resources. Instead of friends, family, and colleagues, PIMM lets business users create lists that support job-related metrics.

Facility managers, for example, might use PIMM to display operational metrics related to the physical environment such as "freezers," "security cams," and "fuel levels."

"We currently use the solution to monitor the deliveries of key products between our approved manufacturing facilities and distribution centers," Lowder says. "We tried a few other systems, but they were not as efficient as we would have liked."



The problem was two-fold. "First, those systems relied heavily on personnel performance at both the shipping and receiving locations," Lowder says. If procedures weren't carefully followed, trip data would be lost.

"Second, even if everyone did their part, the method of communicating the data for questionable loads was manual: attaching files to e-mails and, in many cases, even using overnight delivery service to send monitors back to our monitoring partner for processing," Lowder says.

The information turnaround time often left Arby's managers in the awkward position of looking at data after a delivery had already been accepted or refused.

Gaining Insight

Since deploying PIMM in 2006, Arby's managers have gained enhanced insight into a variety of areas.

"We have better information to make decisions about load acceptability," Lowder says. "We also have more visibility into who is doing a good job–not only with respect to how they're handling our products, but how they're executing our monitoring program."

Arby's vendors and distributors also appear to be pleased with the technology. "The vendors are getting more for their money because they have access to all their deliveries, not just the problem loads," Lowder notes. "The distributors get a system that's easier to use."

TMS technology is helping Eastern Propane and Oil coordinate its propane and fuel oil services to 80,000 New England residential and commercial customers. The Rochester, N.H.-based company uses its TMS solution to map the movement and activities of approximately 80 delivery and 70 service

vehicles from seven sites serving New Hampshire, Maine, Massachusetts, and Rhode Island.

Efficiency and Savings

The company's TMS goal was to find a technology that could bring efficiency and cost reductions to service and delivery operations, says Kathy Ford, Eastern's vice president of customer care, forecasting, and logistics. After considering fleet management offerings from several vendors, the company ultimately selected Wireless Matrix, a Reston, Va.-based supplier of TMS solutions to companies in the utilities, service delivery, telecom, rail, and distribution markets.

Wireless Matrix's *FleetOutlook* solution combines a Web-based fleet management application with an in-vehicle global positioning system (GPS) receiver, Wi-Fi capabilities, and a supporting hardware platform, says Mike Jakab, Wireless Matrix's vice president of sales. *FleetOutlook* provides functions that allow companies to accomplish more work with their fleet assets, leading to greater efficiency and lower costs. That philosophy meshed perfectly with Eastern's goal.

The TMS includes vehicle mapping, customer-defined stops and points of interest, as well as dynamic status reporting, trip reporting, and XML data integration to back-office systems.

Eastern uses *FleetOutlook* for managing deliveries, assessing miles traveled and gallons delivered, and calculating vehicle stops per day and per employee. "Based on these reports, we can reroute freight to optimize the number of stops," says Peter Paone, Eastern's delivery manager.

The product also supplies an important safety feature. "It allows us to observe all our vehicles simultaneously, providing a bird's eye view of each one's location at any time," Paone says. "If a customer reports an emergency, we can quickly determine the closest responder."

Eastern encountered some pushback when it introduced the TMS to its technicians, who were suspicious that the technology was primarily intended to spy on their activities with the ultimate goal of driving them to work faster and harder. "It was a big culture change; the technicians were not happy about it," Ford recalls.

Over time, however, Eastern was able to convince its technicians that the software wasn't being used as a snooping tool and would eventually reduce many frustrating activities – such as sitting in traffic jams or servicing customers in illogical route sequences. "They're fine with it now," Ford notes.

Convincing Eastern's delivery drivers was much easier because they could already see how the TMS was helping the company's technicians. "Drivers didn't make a fuss because they came second," Ford says. "It was already a part of the technicians' workday, so it became part of the drivers' culture, too."

OIL'S WELL THAT ENDS WELL. **Although Eastern Propane and Oil's technicians were initially wary when the company installed a fleet management application with GPS tracking, they soon came to appreciate the time-saving tools the program provided.**

Subscribe Now

The TMS market has added yet another layer of complexity over the last few years with the arrival of applications delivered via the Internet: on-demand or SaaS (software as a service) deployment

"Instead of companies paying a licensing fee up front and implementing software in-house, they access the application via the Internet and pay a monthly subscription fee," explains Gonzalez. "This makes it easier for companies to get solutions up and running quickly."

Snack food manufacturer Otis Spunkmeyer recently bit into a hosted TMS. With some 62,000 food industry customers, Otis Spunkmeyer delivers frozen cookie dough, prebaked cookies, and packaged baked goods to convenience stores, supermarkets, restaurants, and food service distributors. The company also serves institutional, military, and vending machine operators.

Mike Mahon, director of distribution operations logistics, handles the San Leandro, Calif.-based company's transportation interests. He's responsible for the distribution– including transportation and warehousing with contracted carriers and 3PLs– of all finished foods from the plant forward. The firm ships products to its 55 direct-store delivery facilities, as well as to more than 1,000 local distributors.

Mahon is currently in the process of deploying a hosted TMS supplied by LeanLogistics, Holland, Mich. Lean Logistics' Web-based *On-Demand TMS* combines traditional TMS functionality

with collaborative capabilities that can only be delivered online, says Pete Stiles, LeanLogistics' vice president of strategy and marketing.

On-Demand TMS is designed to connect customers to their supply chain trading partners and to promote information sharing. Connected parties aren't limited only to a company's carriers–the service provides access for all relevant partners, including suppliers, consignees, shippers, and third parties.

The Web-hosted TMS provides daily planning, execution, and settlement functions in addition to periodic strategic procurement functions. It also supplies functions that are best delivered through a network, such as supplier inbound management, appointment scheduling, benchmarking and network-wide reporting, a private transportation marketplace to obtain capacity and reduce costs, and supply chain visibility.

Otis Spunkmeyer currently uses *On-Demand TMS* for all products leaving its plant, as well as for forwarding inventory to distribution centers and customers. Down the road, the company plans to use the solution for load distribution optimization and tendering.

By the time the TMS is fully deployed, Mahon expects that managers will have clear visibility of their financial spend down to the customer and item level. "They'll be able to effectively manage their carriers on a wider basis and have more visibility to more carriers," he says.

SWEET SAVINGS. **Snack food manufacturer Otis Spunkmeyer uses a TMS solution to track all products leaving its plant, and to forward inventory to DCs and customers.**

Narrowing the Choices

With so many TMS choices being used in different ways, businesses could get hung up on deciding how best to approach the market.

"Companies need to examine their current capabilities," Gonzalez says.

He advises companies not to attempt to turn all their processes over to a TMS simultaneously. "Understand your operations and processes, and what functions you want to enable today and down the road," he says.

After deciding on a particular technology, it's time to begin assessing TMS vendors and their various offerings.

"When you survey the vendor landscape, make sure their capabilities align well with your requirements," Gonzalez says. "Look for a vendor that has proven expertise in your vertical industry."

It's also important to pay attention to matters that may seem inconsequential at first. "How much does the vendor spend on R&D? Does it continuously improve its product, or has it offered the same software year after year?" Gonzalez asks. "For global companies wanting a single TMS worldwide, make sure the vendor can support you everywhere."

After cutting through marketing hype and vendor promises, companies gradually begin to realize that TMS effectiveness is directly reflected in future return on investment.

"TMS benefits vary by company, depending on how inefficient the processes are to begin with," Gonzalez says. "In general, companies achieve cost reductions–anywhere from five to 15 percent or more."

A transportation procurement event can also reap rewards. "Many corporations have never put their transportation needs out to bid, which can present savings opportunities," Gonzalez says.

Businesses may also see labor reduction benefits by automating processes that had been done manually. "Savings also can be extracted by optimizing routes, combining loads, and making smarter decisions," he adds.

The biggest mistake businesses make is buying a TMS that doesn't fit. This usually happens when a company fails to fully analyze the need for a particular TMS technology or doesn't carefully investigate a particular TMS offering and its vendor.

"Companies invest heavily in a TMS package, then discover it doesn't meet their needs, or it's too complicated, so they go back to using spreadsheets," Martha says. "The biggest pitfalls are caused by not doing the homework up front and rushing into TMS implementation."

Time and effort invested in researching TMS technologies and their applications can pay substantial dividends for many years.

"Anyone considering a TMS should commit to doing it right," says Arby's Lowry. "The process can be time-consuming, and you might find out more than you want to know about your company's operations at first.

"But as you gain a better understanding of what goes on during transportation," he notes, "it will get easier to make better-informed decisions about TMS solutions." ■

TMS MARKET PLAYERS

Thinking TMS? Check out this list of suite vendors and point-solution providers offering innovative TMS packages.

	PRODUCT & VENDOR	WHAT IT DOES	THE COMPANY LINE
H L	**FleetOutlook** **Wireless Matrix** Reston, Va. www.wirelessmatrixcorp.com	Combines a Web-based fleet management application with an in-vehicle global positioning system receiver, Wi-Fi capabilities, and a supporting hardware platform.	FleetOutlook is a comprehensive 360-degree solution, backed by 24x7 support, which enables the full value chain of dynamic schedule planning execution. From vehicle mapping and XML data export to optional telematics monitoring, it offers features that maximize productivity and reduce cost.
H	**HighJump Transportation Advantage** **HighJump Software** Eden Prairie, Minn. www.highjumpsoftware.com	Provides tools to automate once-manual optimization processes, improve customer service, and reduce costs. Managers can spend more time on strategic transportation requirements and less effort on running scenarios.	TMS is strategic and necessary. The challenge of finding the best way to optimize and route shipments can no longer be met with paper-based methods.
H L	**i2 Transportation Planning and Management** **i2 Technologies** Dallas, Texas www.i2.com	Delivers transportation modeling and analysis, transportation planning and management, bid collaboration, supply chain visibility, and replenishment planning.	i2's TMS uses configurable business rules and appropriate constraints to transform order fulfillment, procurement, and replenishment plans into cost-optimized and executable transportation plans that adhere to inventory and network constraints.
H L	**Infor SCM Transportation Management** **Infor** Alpharetta, Ga. www.infor.com	An integrated global transportation and trade compliance solution that aims to simplify global trade by managing inbound and outbound transportation from order inception to delivery.	Globalization, increasing pressure on profit margins, and the growing complexity of the supply chain demands companies pay special attention to their TMS strategies.
H L	**JDA Transportation Management** **JDA Software** Scottsdale, Ariz. www.jda.com	Helps shippers, carriers, and transportation service providers effectively manage multimodal logistics networks.	The solution covers the entire closed-loop transportation process – from strategic transportation sourcing, planning, and optimization to shipment visibility, payment, and performance analysis.
H	**LeanLogistics OnDemand TMS** **LeanLogistics** Holland, Mich. www.leanlogistics.com	Provides procurement, planning, execution, private transportation marketplace, appointment scheduling, continuous move, visibility, and business intelligence features.	LeanLogistics offers a Web-based TMS that combines traditional TMS functionality with collaborative capabilities that can only be delivered online.
L	**mySAP Supply Chain Management** **SAP** Walldorf, Germany www.sap.com	Offers transportation planning and shipment completion, shipment cost calculation and settlement, shipment cost calculation for individual customers, billing of customer freight, service agent selection, follow-up and supervision of shipments, and management of shipment costs.	mySAP Supply Chain Management offers a complete, integrated set of tools needed to plan and execute supply chain operations. Users can collaborate at all planning levels and work with partners on taking orders, tracking inventory, shipping products, and managing relationships with customers and suppliers.

H Hosted on the vendor's site
L Licensed to the user

	PRODUCT & VENDOR	WHAT IT DOES	THE COMPANY LINE
L	**Oracle Transportation Management** **Oracle** Redwood Shores, Calif. www.oracle.com	Integrates and streamlines transportation planning, execution, freight payment, and business process automation on a single application across all transportation modes.	Oracle Transportation Management delivers scalable capabilities in an open standards-based architecture that allows users to start with a single component or any mix of components.
H	**Personal Information Management Monitor (PIMM)** **Procuro** San Diego, Calif. www.procuro.com	Manages operational devices inside vehicles, facilities, and warehouses, ensuring that environmental conditions are maintained, surveillance devices are operational, and plant equipment is operating within specified limits.	PIMM was designed to be used by the average business person. You don't have to be a computer expert to use PIMM.
H L	**RedPrairie Transportation Management** **RedPrairie** Waukesha, Wisc. www.redprairie.com	Six different modules cover various aspects of TMS, including shipment optimization, partner coordination, and performance management.	RedPrairie Transportation Management solutions automate transportation tasks and bring better visibility to order-fulfillment activities. They connect multiple parties and business processes throughout the broader supply chain, continuously optimize all transport variables, and bring organizational efficiencies and cost reductions.
H L	**ShipperConnect FMS** **RMI** Atlanta, Ga. www.railcarmgt.com	Traces railcars contained in permanently assigned fleets, or rail shipments loaded in "free-running" equipment. Inbound and outbound rail shipments can be monitored using information from Class I railroads, and from more than 300 short line and regional railroads.	Provides a comprehensive, proactive rail shipment tracking system. With FMS there are no more "black holes."
H	**Telargo Mobile Asset Management Solution** **Telargo** Jersey City, N.J. www.telargo.com	Enables users to streamline operations and maximize the performance of mobile assets, including vehicles, machinery, trailers, vessels, and drivers/operators.	Telargo is easy to use and dependable, providing a fast ROI due to its built-in integration capabilities. Telargo allows users to focus on their own business, providing the necessary logistical tools and decision-making information at a moment's notice.
H	**Transplace TMS** **Transplace** Plano, Texas www.transplace.com	Encompasses freight and carrier optimization, event management, and TMS financials.	The TMS market for on-demand technology continues to increase. Generally accepted as good business practice, Web-native TMS provides cost-effective, robust solutions for shippers of all sizes.
H	**Transportation Planning and Execution** **Manhattan Associates** Atlanta, Ga. www.manh.com	Allows users to create a strategic transportation plan and efficiently manage daily operations.	This Web-based solution easily links your plans to actual transportation processes to gain global visibility into all shipping activities, allowing you and your trading partners to coordinate operations.