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Food Industry Research Center

Finding Your Way With GPS: Is It Right For Your Fleet?

Food Logistics

The benefits accrue regardless of fleet size and products delivered, say experts.

Pat Russo

NOVEMBER 12, 2001 -- It doesn't require a large capital outlay to gain bottom-line improvements from global positioning system (GPS) capabilities. According to industry experts, there are many keys that can unlock the treasure trove of benefits available from GPS.

Nearly all makers of onboard communications devices and associated software providers rely upon GPS functions to power their solutions.

"I can almost guarantee that 99 percent of onboard computers available today come with GPS, at least as an option," says Mark Stanton, director of technology business development at Symbol Technologies Inc., Holtsville, NY. "They come standard for about \$100. The benefits significantly outweigh the cost."

Food industry companies are already seeing improved results from GPS capabilities. The technology's ability to provide directions cut overtime by 75 percent for one user, according to UPS Logistics Group, Atlanta. In nine

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months, a grocery distributor in Chicago recovered the cost of a solution from Cadec Corp., Londonderry, CT, through improved asset utilization, fuel efficiency and overtime reductions.

Contrary to popular belief, you don't have to be an industry giant or have a mammoth fleet to use GPS. The only requirement is a clear-cut objective.

"What we have found is that the business need, not the company size or industry, affect use of GPS and real-time delivery management systems," says Aaron Lee, product manager for UPS Logistics.

"Systems that incorporate GPS allow for what we call 'proactive customer service'," says Len Kennedy, chief operating officer of UPS Logistics. The company's MobileCast system is a prime example of this service ethic. The system enables distributors to notify customers of delivery delays from traffic, accidents or vehicle breakdowns, even sending delay notifications to customers via e-mail.

Identifying Real-Time Needs

One key factor governing the effective use of a GPS-powered solution is whether a company requires real-time information to drive customer service decisions.

"A company must evaluate its goals and decide if they need true real-time delivery management or just an AVL (automatic vehicle location system)," says Lee. "If a company needs more information to make informed business decisions and provide proactive customer service, then GPS as a component of a real-time delivery management system is a better choice."

Even companies that don't require real-time information exchanges to meet their objectives can gain efficiencies from examining GPS data. According to Cadec spokesperson Susan Fall, a Chicago-based grocery firm that recovered its system cost in nine months used radio frequency transfers to manually download data from onboard devices.

"They gather their reports at the end of the day, then speak to the drivers about improvements. For example, 'We see you idled the vehicle for 45

minutes at one stop,' or 'We see the truck went 10 miles off its route today'," says Fall.

Once a company decides that real-time information is needed to drive business improvements, they must select an appropriate technology for transmitting data. In addition to hardware and monthly subscription costs, they must consider the technology's available coverage area.

Nationwide and other long-haul operators often require constant knowledge of fleet location. To get this GPS data, they rely upon either cellular or satellite communication. Since dead zones—such as those encountered in mountainous regions—frequently interfere with the cellular signals, satellite communication has historically been the most reliable way of transmitting real-time GPS data.

Costly satellite hookups are no longer the only option for these operators. "You don't need a satellite hookup to use GPS," says Symbol's Stanton. "There are a number of ways of sending that data in real time."

UPS Logistics solves the cellular coverage problem by using a store-and-forward capability. "The message is delivered as soon as they enter into a coverage area," says Lee. Transmission delay has not been a big issue among users, he adds.

Companies unable to tolerate delays can use a cost effective dual-mode service that combines satellite and cellular signals. Data is sent using the less expensive cellular technology when trucks are in range. When cellular coverage is unavailable, it switches to satellite mode. Aether Systems' MobileMAX2 is one example of a dual-mode system, says Fall. Aether Systems is a wireless solution vendor in Owings Mills, MD.

Data networks are another alternative to satellite communication. Also known as terrestrial networks, they're similar to cellular communications, except they're specially equipped for data and offer cost efficiencies over satellite.

"You can buy the phone for under \$100, hook it up to a handheld device

equipped with GPS, and send and receive data from your vehicle," says Stanton. "What you spend is dependent on how much data you'll send. Via satellite, it would cost around \$60 to \$70 a month. A satellite transceiver costs approximately \$1,800. Instead, the cost of entry is \$100, and you can connect a radio for somewhere around \$150 to \$200, just for the hardware. And you'll pay about \$25 to \$35 a month per vehicle. The cost of entry is much lower."

Both Cingular and Motient offer wide-area data-only networks in the United States, Stanton says. While costs are slightly higher than cellular voice communications, data networks offer enhanced security, data encryption and utilize store-and-forward capabilities.

Cost Reduction Strategies

Some vendors are teaming GPS-enhanced solutions with Internet technologies, further reducing capital outlay and improving return-on-investment. Vehicle tracking, which typically required hardware purchases, can now be done using a Web-enabled PC.

"If you track vehicles via the Internet, the level of investment is minimal," says Symbol's Stanton. "The level of your information system group's involvement is also minimal."

Many application service providers (ASPs) offer leasing programs that further reduce capital outlay. Acer Systems, Agentek, Atroad and others, offer total solutions for onboard devices, including the appropriate communications technology, service and applications, such as route planning.

"The cost of entry isn't extremely high," says Stanton. "You can get a system for \$20 to \$30 a month per vehicle that utilizes GPS. Of course, it all depends upon the complexity of the system and what a company wants to accomplish."

In addition to reducing capital outlay, contracting with an ASP permits a food company to focus on core business issues instead of being distracted by information systems. It also sidesteps the thorny problem of solving technical problems among various internal systems.

"With the ASP model, you have little or no integration issues because the provider solves them for you," says Stanton. "They've already integrated the technologies into their applications; you're just using them. They maintain the database, the infrastructure and the computers. All you need is a browser to gain full access to the system. It's a 30-day implementation; it's a slam dunk."

Locating The Benefits

Nearly any food company can put a GPS-driven solution in place to reap productivity improvements, enhance customer service and reduce operating costs. The benefits accrue regardless of fleet size, long- or short-haul, variable or fixed routes, and products delivered, say industry experts.

"GPS provides the means to determine if each driver is following the route plan and meeting service goals, both of which contribute to route efficiency and ultimately to bottom-line profitability," says Lee.

By getting data transfers from onboard devices, companies reduce driver paperwork, increase productivity and reduce errors. Data needed for DOT logs and state crossing taxes are accurately and efficiently transmitted, while reducing administrative costs. Users frequently report increases in driver efficiency.

"The driver arrives at the office and gets his route sent automatically to the vehicle and ends his trip the same way," says Norm Ellis, senior director of business development for San Diego-based Qualcomm Inc.'s Wireless Business Solutions. "This results in less unproductive time in the driver room, and filling out daily trip reports."

For some companies, GPS turns an expense into a money making opportunity.

"Quite often private fleets are not considered a revenue generator, but an expense of doing business," says Cadec's Fall. "Now companies that own private fleets are using the technology to obtain and manage backhaul

operations. Backhaul is a big selling point because the trucks don't drive back empty. Once companies learn how to get backhaul, private fleets can become a profit center."

Having data on driver activities can prevent potential liability. "One company that used an onboard computer was taken to court for an accident," says Symbol's Stanton. "The GPS data enabled them to prove that driver took whatever action that he could, that he was not speeding, had not driven over the set hours. The case was thrown out of court, when it could have cost the company millions."

Despite the technology's ability to track trucks and drivers, companies should avoid using the technology in "big-brother" mode, says Jeff Hjort of Keane Consulting, Denver. "A company needs to define precisely the purpose and expectations they have before implementing a GPS system," he says. "If people want to goof off, they're going to find a way to goof off. It becomes a game to beat the system and almost challenges people to do the things you're trying to prevent."

Rather than focusing on preventing negative outcomes, GPS should be positioned to encourage desired business results, such as customer-service improvements. "Improving customer service is an appropriate objective for getting a system," says Hjort. "GPS provides inventory visibility, which supports customer service objectives. If a company is using a GPS system to track employees, what type of customer service do you think those employees are going to be motivated to provide?"

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