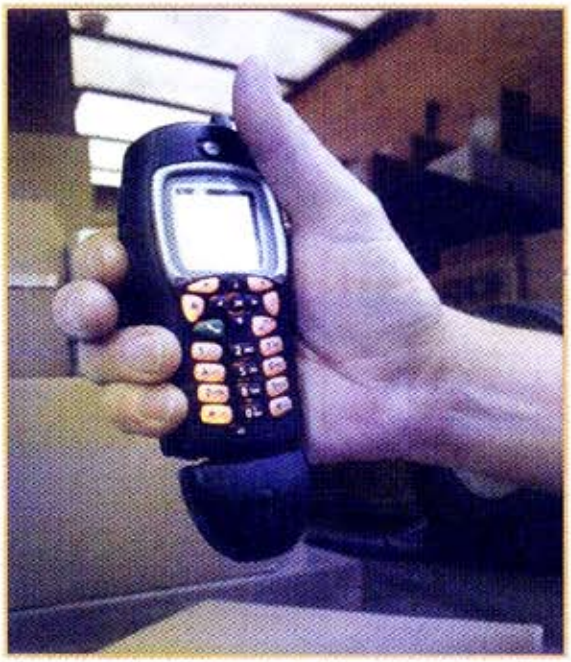
Hand It To Them

Handhelds allow fleets to extend their communications power beyond the truck.

Handheld devices – from smart cell phones to PDAs to mobile computers – allow fleets to extend their computing power outside the realm of their truck.

They enable fleet managers to track vehicles and communicate with drivers on the road. Handhelds can also be used for electronic hours of service recordkeeping. And they are used to collect data on the road and automate maintenance operations.



Scanning packages to generate immediate delivery information and tracking drivers are just two of the ways fleets use handheld devices. Shown is an AirClic scanner.

"Handheld devices take data collection right to the source, making collecting that data more efficient," says Jeff Sibio, vice president of transportation industry marketing for Intermec, headquartered in Everett, Wash. Using a mobile device to capture a signature or scan a bar code at a delivery or pickup location makes that data immediately available to the fleet. It makes the driver a primary data collector. And all it takes is a few keystrokes or a swipe.

Another plus is that these devices can easily integrate with a fleet's existing trucking management software or mobile communications system. Most major mobile communications providers offer mobile capabilities in addition to in-cab systems, and many management software providers can easily import data collected from remote devices.

Information such as signature captures, barcode scans, electronic pretrip reports and delivery data can be sent wirelessly to a company's back office applications. Michael Berger, director of channel and product marking for Xora Inc., Mountain View, Calif., notes that management systems such as McLeod or TMW can import this material either via an OBD link or through more sophisticated integration. Xora provides tracking devices and smart phone-based applications for vehicle tracking, proof-of-delivery and other tasks.

For fleets looking to adopt wireless communications and tracking, systems based on handheld units can offer significant cost savings over in-cab systems, especially if the system is based on smart cell phones. In a 2006 survey by research firm eyefortransport, 86 percent of respondent fleets favored handhelds, with lower cost listed as a primary factor. The percentage dropped in 2007, with 74 percent of respondent fleets favoring handheld devices for mobile computing and communication needs.

Another reason cell phone systems may be growing in popularity is that most fleets already use cell phones for communicating with their drivers, according to the eyefortransport survey. In 2007, the nearly three-fourths of the fleets surveyed said they used cell phones as the primary means of communication with drivers, up from only 11 percent in the 2005 survey. Those fleets report-

Jim Beach • Technology Editor

ing using satellite-based products to communicate with drivers dropped to 11 percent in 2007 from 25 percent in 2005.

The trucking segments using handhelds most often include applications such as package delivery, field service and LTL pickup and delivery, Sibio says.

Typically, these are operations dealing with small package and more time-sensitive freight. Carriers need to know where freight is: when it was picked up, when it was delivered, who signed for it.

Cheetah delivery and dispatch software runs on a number of handheld devices such as the Symbol MC35 from Motorola.

The eyefortransport survey reflects this, noting that the 91 percent of for-hire LTL fleets responding use their wireless communication system to track and trace, while another 70 percent use the system for proof of delivery and mobile imaging (signature capture and scanning).

Intermec's CK61ex is a Windows Mobile-based handheld computer with integrated imaging technology for scanning barcodes.

Cheetah Software, Westlake Village, Calif., provides logistics and dispatch software for a number of LTL fleets. The system is designed to work with Java-enabled GPS phones, Microsoft-enabled PDAs and mobile computers and Blackberry handhelds. All of their customers use handheld devices, says Stephan Karczag, a Cheetah vice president. "We provide driver productivity and by default you get truck productivity," he says. "So we don't provide an in-cab device."

Cellular-based systems have become more effective as cellular networks have grown, he says. "When we first started, you could get in-city coverage, but anyone going outside the city had to go to satellite. Now, with the growth in cellular coverage, the regional guys are doing quite well with just cellular." Karczag says that even some long-haul operations could use a cellular-based tracking system, if the fleet doesn't need all-the-time coverage.

One such trucking operation is a division of Bragg Heavy Transport, Long Beach, Calif. that hauls cranes, windmills, construction equipment and other large loads nationwide. The company uses Xora software and Sprint/Nextel GPS phones to track driver location and vehicle speed.

Bobby Weyers, operations manager, said, "Our drivers are not always in the truck. We do a lot of on-site work; this allow us to track them even if they are in a pilot car or on the ground working. We know where the guys are all the time."

Drivers turn their phones on at the beginning of their day, log into the Xora system and it "keeps track of the phone from there," Weyers says. The system reports stops and issues speed alerts if the truck is shown to be traveling over 65 mph. "Our tractors are not governed for speed, but the drivers know we can monitor their speed via their phone." Cutting down on excessive speeding saves the company money in terms of fuel and insurance costs, Weyers says.

Wessin Transport, Minneapolis, went with smart phones and software from AirClic to keep tabs on their shipments. Running about 125 trucks through 16 offices, Wessin is an Amway premium hauler and

delivers Amway and Avon products to the upper Midwest and the eastern seaboard.

According to Al Schostag, manager of information systems, Wessin uses Motorola i355 and i615 phones from Sprint/Nextel, coupled to AirClic scanners in a ruggedized sleeve.

"We knew we had to give scanning to our clients. We didn't approach this with the idea of getting a large return on our investment; rather we knew we needed to do this to service our customers and get more business from them."

Using a phone, drivers scan a package's barcode when they make a delivery. "That data is brought into our system here on an SQL server," Schostag says. "Within two minutes, it's displayed on our web site so our customer service people can access it."

The phones report GPS data every five minutes and whenever a delivery is made. "When you make a delivery, it's going to send a GPS time and date stamp. We know exactly when the item was dropped."

Schostag said it takes a driver about 22 minutes during the course of a day to scan packages. But that's offset by time-savings in the back office and by increased customer service capabilities.

"We've been waiting for something like this for 30 years," he says. "It works really well for our needs."

Most software vendors providing products for handheld computing offer company-specific screens to facilitate driver input, such as this Xora handheld.

A fleet's specific needs will dictate what kind of system will be most cost-effective. While the smart phone-based systems offer a low cost of entry, more robust systems would be called for in some applications.

Recent moves by a number of states to restrict the use of handheld devices while driving may also limit some fleets. It depends upon what kind of data a fleet needs to collect. Smart phones do not interface with the on-board computers found on the truck. For fleets wanting to monitor vehicle status and location as opposed to driver location, an in-truck system may be the best plan.

Handhelds can also be used to automate driver tasks such as the pre-trip inspection. Zonar Systems, Seattle, produces a handheld device for conducting pre-trips. The system includes a handheld RFID reader and RFID "zone" tags attached to the truck in various areas. The driver starts the inspection and must record the condition of each component within a zone (usually about 10 components), before progressing to the next.

When finished, the driver places the reader in a cradle mounted in the cab. The stored electronic vehicle report is uploaded to Zonar's server.

Reports with defects are separated and the user can log into the site and view those reports with defects reported. This data can then be sent electronically to the shop.

What Is A Handheld?

There are some distinctions that should be made. While smart cell phones can run a number of applications designed for trucking and a large number of firms use these types of units, there are differences between a smart phone and a mobile computer. A proper mobile computer will be a rugged unit capable of running Windows mobile operating system or a Windows-capable PDA. This type of unit is capable of running more applications.

A Java-enabled cell phone, on the other hand, will be limited in applications and capabilities, and won't be as rugged. A mobile computer or ruggedized PDA will cost $1,500 or more. A smart cell phone costs about $200. A number of fleets find phones work great for them, while others need the computing power of a true mobile computer.

"The phone can be used as a data terminal," says Xora's Michael Berger. "It's a low-cost platform to get real time shipment information and that's something that transportation companies find attractive."

The key is knowing what capabilities your company needs, says Intermec's Sibio. "First-time technology adopters will typically go with the least cost alternative, which might not fit their application," he says. "There are some applications where smart phones can be used, but they miss things like signature capture or item-level tracking. If all you need to know is that the driver has arrived, made a pickup or delivery, then all you need is a smart phone application."

Much depends upon the wireless carrier as well. The Motorola i615 "seems to be the workhorse phone in the industry," says Cheetah Software's Karczag. But he says there is a shortage of GPS-enabled phones software providers can use.

"Some wireless carriers, Verizon for instance, do not allow third parties to access the GPS on their phones," he says. "Nextel was very open and now, since it's joined with Sprint, Sprint is going in that direction. Consequently, all the GPS applications in the industry run on Nextel or Sprint phones.

"Higher-priced PDAs will run across all networks, as will mobile computers. But then you are up to more than $600 for the PDA and up to $2,000 for a mobile computer. Lower-priced PDAs will work on only one or two networks and below $200, all you have pretty much are Nextel-type phones."

As with most other technologies, it comes down to balancing what a fleet needs with what it can afford.