For maintenance professionals, hardware and software for handheld computers have evolved quickly. Cost-effective methods for eliminating paperwork and improving cycle time on repairs are at a technician's fingertips. Adding to the momentum is an explosion of wireless solutions--the most appropriate of which have been adapted to boost productivity among maintenance professionals.

Improving productivity

"Wrench time, that's what it is all about," says Richard Marzec, director of maintenance and engineering at Rush Presbyterian St. Luke's Medical Center, a 4 million sq ft medical campus in Chicago.

Regardless of the maintenance challenge or the facility to care for, managers such as Marzec are increasingly looking for handheld technologies that:

- Provide immediate, measurable, and sustained productivity gains for maintenance technicians
- Free support staff to tackle more strategic initiatives
- Are easy to use and easy to learn, enabling passive capture of data that can be sent quickly to a computerized maintenance management system (CMMS)
- Deliver flexibility so technicians can transmit data through wireless gear, docking stations, or a convenient land line.

One such program is SMART, a software solution deployed on Windows CE handheld computers featuring touch-screen technology that points a technician to familiar maintenance terms. Developed by Syclo of Barrington, IL, it is easily configured to meet the diverse maintenance demands of organizations including a large metropolitan hospital, a major Las Vegas hotel, a military base, a manufacturing plant, and an office complex operated by a high-tech member of the Fortune 50.

Empowerment

Las Vegas provides a compelling example of maintenance that has to be done right and done immediately. If a high roller is bothered by a leaky faucet in his luxury suite, the maintenance department has to hurry to make the drip a distant memory.

"We have more than 100 trades people working 24 by 7," says Jethro Spurlock, CMMS systems administrator for the MGM Grand Hotel in Las Vegas, which has 5000 rooms. "That level of activity generates a tremendous amount of paperwork and data entry. We deployed SMART with its wireless capability. Now we're performing more work and can provide our customers with up-to-date information."

With aging equipment, tight budgets, and performance pressures always present, developing a preventive maintenance (PM) program can make all the difference. The key to any successful PM program is collecting data from the shop floor or field. With handheld devices, information such as failure codes, pressure readings, and visual inspections is captured with the tap of the screen.

The imperative for speed

A handheld system is built for speed. Compared with the 3 to 6 months it can take information technology professionals to properly install a CMMS project, a palmtop initiative should take less than a week for equipping and training technicians. Similarly, a system upgrade can be as simple as issuing a CD-ROM for installation--and perhaps an hour of technical support on the phone if the maintenance organization needs to tailor the application.

"I needed a system that was highly configurable--something that I could essentially customize without weeks of work by consultants," says Daniel Lockhart, CMMS administrator for Hewlett-Packard in Colorado Springs, CO. "I needed something that I could adapt quickly when our office and manufacturing facility's needs changed. We added 125,000 sq ft of floor space within the past two years. However, because our maintenance systems were already automated--and easily modified to account for new situations--we were able to serve our internal customers in the additional space without adding headcount."

Many maintenance managers are looking for a speedy, sustainable surge in productivity as they bring in a new system.

"Moving our $30+/hour technicians from shuffling paper to the handheld product reduced our foot traffic and end-of-shift paper chase," said Marzec of Rush-Presbyterian. "Since we deployed SMART, I can report a 28 percent increase in completed work orders, and that percentage is increasing."

Maximizing CMMS investment

Many organizations have implemented MAXIMO from PSDI, Bedford, MA, as their CMMS, then discovered how powerful the system can be with the right handheld technology.

"Our technicians pick up the palmtops and in just 30 seconds synchronize with the CMMS, receive their work assignments for the day, and are on their way," says Mary Knuff, building operations and planning manager for J.C. Penney's world headquarters in Plano, TX. "At the end of the day they synchronize their palmtops to the CMMS--no paperwork, no data entry, and no hassle."

At Johnson Controls, the world's largest provider of integrated facilities management, "We got to be No. 1 by identifying best practices and real solutions that control costs and deliver excellent service," says Laura Mitchell, director of information technology in the company's integrated facilities management business unit. "We deploy that knowledge to our sites worldwide. About two years ago, we saw that replacing paper work orders with a handheld solution was the best use of technology to improve productivity. After a worldwide search of technology providers, Johnson Controls has now standardized on SMART. We are already seeing solid productivity gains among our technicians."

How time factors into decision-making

It can take time to figure out how to streamline long-established processes. The Johnson Controls team at Fort Irwin, the U.S. Army's national training center in California, reduced a standard 12-step maintenance process to six steps after adopting the palmtop approach. Accordingly, administrative, supervisory, and maintenance technician personnel at the base, who averaged 17 min. to generate and close out a paper work order, have cut that time in half.

It also can take time to replace an organizational mindset, such as specifying laptop computers for maintenance technicians. While information systems professionals may swear by laptops for their work, a tradesman can't carry a bulky 6 lb. computer on his tool belt. In addition, maintenance organizations with large headcount quickly discover the considerable budget savings of outfitting a technician with a palmtop versus a laptop.

Palmtops for maintenance

It boils down to time spent performing the work and capturing the data that drives effective management decisions. Handheld, wearable solutions represent the best use of technology to improve maintenance productivity. With handhelds, maintenance organizations eliminate paper work orders and data entry, account for work that slips through the cracks, and accurately track parts used, record accurate labor, and capture critical failure information. The ability to collect and distribute accurate information may be the single most important factor in achieving maintenance excellence.

Handheld computing is bringing applications out of the office and delivering knowledge to the mobile work force. Sophisticated CMMS software and advances in handheld computing make palmtop computing the next best use of technology to increase productivity.

"Due to better data recording, we have been able to prove the reliability of equipment and reduce preventive maintenance on cooling systems from monthly to quarterly," says Lockhart of Hewlett-Packard, whose CMMS was able to triple the number of work orders tracked after instituting handheld technology. "Technicians are doing a better job of documenting what work has been done, additional work to be done, and material being used." **MT**

Information supplied by Syclo , Barrington, IL; (800) 567-9256