

*Information as a Competitive Advantage*

## **Job-Site Technologies Empower Contractors**

Virtually every construction back-office activity relies on information gathered at job sites. The more timely and exact the data is, the better a contractor can manage its business toward a profitable outcome.

However, while construction office systems have been computerized for years, manual methods have long prevailed in the field. Until recently most contractors collected and stored job data by hand — whether with pencil and paper or Excel spreadsheets. Either way, as the information made its way from the trailer to the office, its accuracy and timeliness were often compromised.

But things are changing. More contractors are finding they can leverage new job-site technologies to gain a crucial advantage over rivals. A contractor that can precisely measure productivity and costs day-by-day, and then integrate that data quickly with accounting functions, obtains leading indicators about the job's profitability — and an opportunity to make changes in time to make a difference.

Here are some of the most useful technologies available today.

### **Capturing Field Data**

In a conventional paper-based process, most job-site activities — hours worked, time spent on a job, work in progress, expenses and so on — are recorded once at the site, and then again at the corporate office, with possibly another entry into financial systems. Such a process causes delays, inaccuracies and duplication. Lost data is even more costly, if field employees fail to record billable activities and their duration.

Today's digital time- and cost-recording systems, however, prompt employees to record activity as it occurs. Systems capture data with a single entry and integrate easily with billing, HR, reporting and project management applications. Most of these systems run on standard Windows platforms and transmit data automatically, via an Internet connection, to the company's back-end systems.

The information is more accurate and current and, by analyzing it, contractors can make better decisions, faster. The job's profitability becomes more transparent, providing the company greater agility in both customer service and strategic decision-making.

### **Managing Equipment and Vehicles**

Equipment breakdowns, or even just a dispatching error, can throw a project off schedule.

Fleet management software, when combined with a global positioning system (GPS), permits a company to track its fleet in close detail. Such software can head off breakdowns by monitoring mileage, hours in use, fuel consumption, repairs and compliance with preventive maintenance schedules.

GPS also enables more efficient dispatching, saving time and fuel. And real-time location tracking can also turn up a foreman's trips to the golf course — or to the scrap dealer to sell his employer's copper tubing.

Stand-alone fleet management systems are inexpensive and easy to install, but most require manual data entry and re-keying. Integrated solutions cost more initially and require more training, but they mesh easily with existing systems, automate the tracking process, minimize data-entry mistakes and deliver more detailed and useful reports.

## Tracking Supplies and Tools

When construction materials grow legs and walk away, or just get misplaced, the cost can be steep.

Radio frequency identification (RFID) technology tracks supplies automatically, without relying on human accuracy. An RFID microchip is a tiny transmitter embedded in a tag durable enough to withstand the construction environment. Like a barcode, it communicates its information wirelessly. But unlike a barcode, an RFID tag requires no manual scanning or line of sight, and it can transmit over much longer distances.

An RFID reader at a warehouse, tool room or site gate can track tools, supplies and equipment and associate them with the employee who uses them, reducing losses from carelessness and theft. The technology makes inventory more transparent, streamlines check-in and check-out and — by matching movements to job orders — facilitates cost allocation. It also generates data the contractor can use to plan for maintenance and future jobs.

When RFID is integrated with GPS, it tracks and reports on supplies through the entire construction cycle.

In the right circumstances, RFID technology can deliver ROI within a year or less, but the initial outlay can be substantial, and training is required. Radio waves are subject to interference. And these tiny components, if not managed properly, can expose larger computer systems to viruses and other malware.

## Cameras, Mobility, Integration

Cameras are showing up more frequently on construction sites. One kind is the stationary all-seeing eye, which not only deters theft but also lets management track a job's progress without being physically present.

The other kind is hand-held, and the newest of these can transmit images of the job-site without a computer, to managers, engineers and architects directly.

Another welcome development for contractors, especially those working in vast open spaces, is the growing affordability of "air cards." Equipped with one, a laptop has no need of a cable, dial-up or wireless hot-spot connection as it links to the Internet through cellular towers and networks. The most remote locations are still out of range, but that "last frontier" is rapidly disappearing.

And all these technologies are now being designed to integrate with the other systems a contractor already has in place. Little by little, we're finding ways to overcome the old problem of one hand — the accounting office — not knowing what the other hand — the field crew — is doing.

\*\*\*\*\*

*BMF is a member of ProfitCrew™, an association of accountants and business advisors dedicated to helping contractors build profitable businesses.*

*The Construction Advisor is produced quarterly by Bober Markey Fedorovich. For more information about our services, please call or email our team leader, Dale A. Ruther, CPA, CIT at (330) 762-9785 or druther@bobermarkey.com.*

*Unless expressly stated otherwise, any U.S. tax advice contained in this communication (including attachments) is not intended or written to be used, and cannot be used, by the recipient for the purpose of avoiding penalties that may be imposed under the Internal Revenue Code.*

© 2009 Bober, Markey, Fedorovich & Company