



Case Study

Sargent Electric Automates Meter Exchangers with the Intermec® 700 Series Mobile Computers

At a Glance

Industry:

Field Service

Market:

Utilities

Applications:

- Asset Management
- Inspection and Survey
- Work Order Management

Products:

- Intermec® 720 Mobile Computers
- Blue Dot Software



S A R G E N T E L E C T R I C C O M P A N Y

Accuracy Right Down to the Kilowatt

A major Northeastern electric utility company is in the process of upgrading their meter-reading technology to AMR (Automated Meter Reading). In this case, the automated meters send various components of usage information back to the utility. Providing accurate daily meter consumption data requires an automated system, replacing door-to-door meter readers across a 10,000-square-mile service area. Sargent Electric Company, a Pittsburgh-based electrical contracting firm, is managing the field deployment services that are being utilized to update and replace the existing electric meters. With a national division that specializes in AMR, Sargent is implementing its own new technology - a workforce dispatching and data collection system.

The Surge is On

The momentum is growing in the utility industry to adopt AMR technology. It is not only an efficient use of resources; it's an efficient method of tracking assets. About 10% of utilities to date have made the transition.

Until this project, Sargent utilized a paper-based system. Work orders were used to dispatch each day's assignments to the technicians

exchanging the meters. At each assignment, the meter exchangers made hand-written records of the serial numbers of both the old and new equipment and meter reading data. They then removed the meter and replaced it with a meter updated with the AMR technology. At the end of each day, the paperwork was turned in by the meter exchangers and scanned into a database using OCR (Optical Character Recognition) software.

"If you have people in the field who can write fairly neatly and stay within the lines, OCR is great," said Gregory Begg, AMR program manager for Sargent Electric. "But we found that's not necessarily the case, and we had to have a team of people at the office to verify and correct the forms - the larger the project, the greater number of administrative staff."

Out with the Old, In with the New

Sargent Electric may be based in Pittsburgh, but it deploys remote projects all over the United States. They needed a system that was quick and flexible enough to deploy into remote locations and be able to set up with a minimum of hassle. In addition, the device needed to be able to read through glass and stand up to harsh environmental conditions.

Sargent turned to two companies that teamed together to make it possible: Intermec Technologies, a leading manufacturer of industrial computers and Blue Dot Solutions, a mobile solutions



software developer. Working with Sargent, Blue Dot developed an application using Intermec® 700-series mobile computers – a device actually requested by Sargent. “Sargent felt the 720 handheld was definitely a durable mobile computer with a very aggressive scan engine. Plus, they liked that you could expand the memory on the device and could upgrade to wireless later on,” said Jeremie Hicks, account executive of Blue Dot.

“We had been contemplating for quite some time the most effective and efficient way to transmit data from multiple users to our database. In this case, we are utilizing virtual private network technology that will connect to our database,” Begg said. “We needed to find a way that we could deploy remotely with a minimum of assets and set-up time and still be able to move the data in near-real-time. Obviously, it’s batch processing, but you need to be able to transmit the data in near-real-time speeds.”

Within two weeks, the system created for Sargent was a custom-designed batch application. Sargent opted to initially create a batch system because the information being collected was not mission-critical, although the system could be enhanced for wireless data delivery down the road. With the new system, each Sargent meter exchanger is given their mobile computer pre-loaded with that day’s assignments, route, inventory requirements, schedule, etc. and assignment specific notes.



“The steps associated with changing a meter are intuitively and logically ordered in the Intermec device,” Begg said. “The appropriate data is collected, then the meter exchanger moves on to the next scheduled location. They are scheduled in a logical order.”

The unit, using a combination of drop-down menus, key entry, and bar-code scans, is used to track the day’s information. “We tried to eliminate as much of the keying as possible so they can actually scan the barcode on the old meters where available.”

At the end of the day, the meter exchanger returns the Intermec 720 to a cradle and downloads the day’s information to the database, which is then quickly processed by Sargent and fed to the utility. Sargent can use the data to generate productivity reports, such as which installers are installing how many units per day.

The utility tracks asset depreciation, meter deployment, and old and new meter usage, which are used for billing purposes.

Saving Money, Expanding Business

Sargent is confident the new system gives them a competitive advantage. “Data integrity is important. Mistakes in data cost you and the utility money and time. There is a definite increase in the accuracy of the data. And we expect to save money in data handling expenses.”

Not only has data accuracy improved Sargent’s office personnel productivity, but meter exchangers have also gotten more efficient. “Our field workers are not faxing papers, printing papers or sorting through papers anymore allowing them to move on from one job location to the next a lot quicker.” Begg said.

Not all companies understand the level of specialization needed to integrate technology into processes. Blue Dot Solutions’ Jeremie Hicks said, “All these companies out there are looking at these consumer devices and they’re thinking, ‘How can we extend them to our enterprise system out into the field?’ It’s really important to create the interface and select devices that will work with the wireless network. And it’s knowing what devices will stand up to the demands of the task. More than anything, it’s considering how important your data is to you, and whether you can afford to lose it.”

Not only is the accuracy of the data important to Sargent and the utility companies they serve, but it is also important to its customers. Accurate information from start to finish means that everyone’s monthly statement is correct, especially the customer’s.

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