

Case Study

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Henkels & McCoy

A Rugged and Versatile Camera Solution to Enhance Utility Field Work

"We were able to custom configure the Ricoh cameras at the start of the utility inventory and assessment project to ensure we collected exactly the data we needed. That way, we knew the data would be collected consistently. But one of the best features of this camera solution was the ability to combine barcode scanning with digital photos."

—Brad Mayo, project manager
for Henkels & McCoy

ABOUT THE CUSTOMER

Founded in 1923, Henkels & McCoy began as a tree-trimming, landscaping and tennis court construction company and quickly grew into a leading national engineering and utility infrastructure contractor. Recognized as one of the top privately held specialty contractors in the country, Henkels & McCoy's offices span the continental United States and extend to Hawaii and Canada. Based in Blue Bell, Pennsylvania, the company's engineering, project management, construction and training services provide critical infrastructure to the electric power, renewable energy, communications, natural gas and pipeline, and water industries.

CHALLENGE

Approximately four years ago, Henkels & McCoy was awarded a utility contract for a California municipality that required the firm to perform an inventory and condition assessment on all overhead utility infrastructure to ensure the municipality was in compliance with state law. Henkels & McCoy's asset inventory and inspection process included a photographic compilation of all utility poles to determine the condition of everything from wires to transformers. With 24,000 poles to inspect for this municipality, Henkels & McCoy required an efficient and accurate way to collect information for this vast number of assets.

CHALLENGE

- Find an efficient way to collect and organize photos and data from the field to document a municipality's utility infrastructure

SOLUTION

- A rugged, GPS-enabled digital camera that can scan barcodes identifying utility assets and embed that information and the GPS location with photos and related memo files for seamless indexing

RESULTS

- An approximately one-third reduction in field data collection time, elimination of a cumbersome manual sorting process for photos and data and a reliable data collection solution for all field operations

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“Prior to our being awarded the inventory and assessment contract, we had been performing planning projects for the municipality, which only required us to inspect approximately 200 utility poles,” said Brad Mayo, project manager for Henkels & McCoy. “The data collection process we had in place involved visiting the various sites using the municipality’s mapping data, then using a point and shoot camera to take a series of digital photos of the pole and its attachments, beginning with a picture of the pole number. Later, our administrative staff would use the pole number photos to sort which series of pictures belonged to which pole and rename the pictures accordingly.”

This data collection workflow was a cumbersome one that took numerous labor hours each week to manage and left no room for error. If a particular pole didn’t have a number on it or the photos were accidentally taken out of sequence, mistakes might be made in renaming the photos or the line worker’s field notes might have to be reviewed to sort out the order.

The new municipal contract would require five Henkels & McCoy field crews to take a total of approximately 2,400 photos each week. Managing those photos and related data using the existing workflow was not a viable option. “We knew we needed a better system,” said Mayo.

SOLUTION

Mayo and his manager looked at other solutions for managing the photos and related data, including using PDA data recorders to input date and time stamped site information that could then be matched to the date and time stamp on the digital photos. “The problem with that solution was that we would still have had to develop a software program to match the data and the photos and if there was a short time gap from one pole inspection to another, mistakes could still be made,” said Mayo. Then, at an industry conference, Mayo discovered the Ricoh G500SE and quickly realized it was the perfect solution, unlike anything else on the market. Each of Henkels & McCoy’s field teams on the municipality project now use the G500SE or its successor, the G700SE for asset inventory and inspection. In all, Henkels & McCoy has approximately 25 of the cameras for its field work.

Ricoh’s G700SE and 500SE cameras offer Henkels & McCoy a seamless way to efficiently complete condition assessments, inventory and project documentation with its data recording and geo-tagged imaging capabilities. The cameras integrate site photos with field information while also ensuring accuracy.

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Line crews can use the Ricoh cameras to scan a barcode from their tablet computers identifying the site and the code is automatically assigned to each photo until a new barcode is scanned, streamlining work processes and enhancing documentation precision. The camera embeds the relevant GPS coordinates and stores related field data in memo files that can then be easily downloaded from the camera's SD card to Henkels & McCoy's content management system.

Ricoh's G700SE and 500SE cameras are also extremely rugged, which is something the Henkels & McCoy crews needed. The cameras can be used in all types of work and weather conditions due to their water, dust and shock resistance.

"I ran five crews, five days a week on the initial project that lasted two-and-a-half years," said Mayo. "There were no camera failures. Both camera models have battery systems that are rechargeable and also have the ability to use AA or AAA batteries, depending on the model. If a field crew needs to use a camera but the battery is being recharged, they can just run to a convenience store and pick up batteries if they don't have them available."

RESULTS

The Ricoh cameras reduced Henkels & McCoy's field data collection time by approximately one-third. "And we save at least one day a week of administrative time now that we don't have to manually sort the photos and data," said Mayo. "Now the amount of time spent administratively is insignificant. We simply upload the pictures and all the identification information is already embedded with the photo. It's seamless."

The process has helped Henkels & McCoy in performing other work as well. "The same California municipal utility has asked us to inspect all of their ground and underground equipment," said Mayo. "So we're using the Ricoh cameras to achieve exactly the same efficiencies they delivered with the overhead equipment and they're performing perfectly. We also use them for our construction pre-fielding work, which involves documenting whether assets scheduled for repair are in the location and condition stated in the work order. Today, they are the only cameras we take out in the field. We won't use any other solution."

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