Capturx Case Study

Tetra Tech and Environmental Agencies

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FOR EMERGENCY MANAGEMENT & ENVIRONMENTAL MANAGEMENT

Capturx Speeds Up Environmental Risk Assessment after Joplin Tornado by More Than 87%

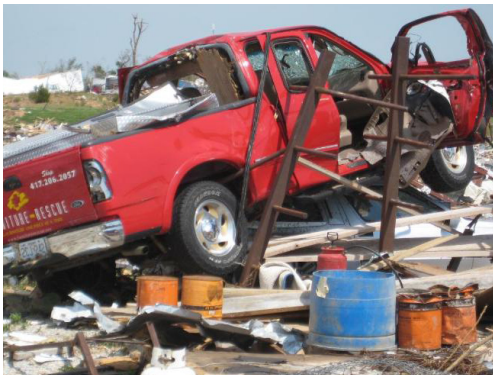

Photo Courtesy of EPA OSC Website

Summary

Customer: A leading provider of consulting, engineering, & technical services worldwide, offering innovative solutions to complex problems, like natural disasters.

Challenge: Paper-based field data management is prone to bottlenecks and delays. Joplin Tornado strikes and safety issues need to be quickly identified and reported to key stakeholders.

Solution: Capturx Forms Software for Digital Pens, enabling field teams to instantly digitize handwritten facility data using digital pens as they write on paper forms.

Results: Realized faster data access to important information by reducing data entry time by more than 87%; providing up-to-date information to key stake holders all while reducing operational costs.

Tetra Tech is a leading provider of consulting, engineering, and technical services worldwide, offering innovative solutions to complex world problems. Their teams work with a variety of agencies across the U.S. on environmental projects, disaster management, and emergency response. Tetra Tech's Region 7 Superfund Technical Assessment and Response Team (START) is a key partner supporting the U.S. Environmental Protection Agency (EPA) in a range of projects across the Midwest.

Environmental assessment and remediation projects, such as polluted soil remediation, involve the collection and analysis of large amounts of field data – often using pen and paper. To speed up that process, Tetra Tech uses Capturx software and digital pens to instantly digitize data as it is written on their paper field inspection forms. With digital data access, teams can avoid the delays, costs, and risks of manual data entry, scanning, or missing documents.

Prior to using digital pens, Tetra Tech had explored PDA-based solutions, but the devices were complex, expensive, and required a great deal of training – which was especially challenging given the large number of field data collectors brought on for different projects.

The Tetra Tech team and Capturx technology were put to the test in the aftermath of the Joplin Tornado on May 22, 2011, which destroyed 4000 buildings and killed more than 160 people. The EPA called upon the Region 7 START team to conduct a rapid needs assessment for new environmental hazards created by the destroyed buildings and infrastructure.

Challenges:

The tornado destroyed a range of buildings and facilities which resulted in environmental hazards such as asbestos releases, chemical spills, and orphaned tanks. A rapid assessment of hazards was mandated to identify immediate safety issues and for longer term remediation. START was called upon to perform the rapid needs assessment, which would traditionally be conducted by inspectors collecting data on paper forms and maps.

Analysts would work through the night at the emergency operations center to enter hazards into the EPA's SCRIBE online database, to update maps and triage issues for immediate attention. The longer the data processing took, the longer hazardous issues would go unaddressed. While paper was ideal for quick capturing of data in the field, processing the data created a bottleneck.

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TETRA TECH, INC.

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"Within 10 minutes we can have someone trained-up on how to use it."

BILL SPIKING
GIS Specialist,
Tetra Tech Inc.

Solution: Capturx Forms Software and Digital Pens

Since Tetra Tech's START team had already deployed a Capturx Forms solution with digital pens to speed up field data collection for soil surveys, for example, the team quickly applied Capturx to the rapid needs assessment for the tornado damage. Four teams of inspectors were deployed with digital pens in Joplin to inspect approximately 80 facilities. They filled out more than 100 facility assessment forms, noting conditions and location with the digital pen. When the digital pen was connected to a PC at the command center, all the data was automatically integrated into Excel, accessible in both the original handwriting and as converted data using advanced character recognition.

Capturx creates automatic summary data tables, which were easily imported into the EPA's database. From the database, the completed forms and data were also overlaid upon Google maps, providing a geospatial view for planners and stakeholders for aggregate analysis and the ability to click on specific locations and drilldown directly to the original handwritten forms.

"With our unique integrated services approach to consulting, engineering, and construction, Tetra Tech gets called into many of the world's most complex environmental projects," said Bill Spiking, GIS Specialist of Tetra Tech Inc. *"Capturx Software helps us speed data collection and analysis so we can provide clients with faster access to important data and lower operational costs."*

Benefits

Faster Data Access by Reducing Data Entry Time by More than 87%

Since Capturx instantly digitizes and integrates the handwritten data into their data systems, Tetra Tech was able to cut the time-consuming data entry time by more than 87%. Now, analysis, triage, and planning can begin as soon as the teams come in from the field and dock the digital pens. Responders can react faster; and other stakeholders can be kept better informed about fast-changing conditions by simply logging into the SCRIBE database for the most current updates.

Lower Operational Costs

By eliminating manual data entry and scanning, significantly fewer person hours were required to process the data. Prior to using Capturx, Tetra Tech teams typically spent close to 5 minutes of data entry per form; now it's been reduced to an average of about 36 seconds. During the Joplin rapid needs assessment, Tetra Tech uploaded data for 100 forms, saving nearly 8 hours of data entry. This time savings freed resources enabling the team to spend more time on analysis and response planning while also reducing the midnight shifts. As the response moves into recovery mode, Tetra Tech can further reduce costs by eliminating the need to ship paper forms back to HQ for archiving – digital copies of all the original documents and handwriting are saved by default.

Works the Way They Work

The START team was able to get the time- and labor-saving benefits without changing their reliable and simple workflow of collecting data in the field on paper forms and maps. The digital pen is durable, easy to carry, and well-suited for rough terrain or exposed environments. Teams found the pens easy to use, as there was no new technology to learn. *"Within 10 minutes we can have someone trained-up on how to use it,"* said Bill Spiking, GIS Specialist of Tetra Tech Inc.