The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

Status:
Laureate

Year:
2013

Organization Name:
Parsons

Organization URL:
www.parsons.com

Project Name:
Emergency response to the impact of Hurricane Sandy to NYCDEP's facilities

Please select the category in which you are submitting your entry:
Human Services

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

In late October 2012, the record storm surge that accompanied Hurricane Sandy submerged many of the New York City Department of Environmental Protection (NYCDEP) treatment plants and electrical equipment in seawater and degraded their ability to pump and treat wastewater. Ten out of 14 of the City's wastewater treatment plants and more than 40 sanitary sewer pumping stations were damaged by Hurricane Sandy. Immediately after the storm, NYCDEP relied heavily on outside support to bring their equipment back into service and restore their ability to treat wastewater for the eight million plus New York residents and visitors. With Parsons' help, 99% of wastewater was treated within five days of the storm, and 100% within two weeks. Parsons' assistance in providing

construction management services at pumping stations was instrumental in the recovery efforts. Clearly, time was of the essence since without functioning sewer and wastewater services, the raw sewage, stagnation, industrial chemicals and floating debris filling the flooded waterways would result in a variety of downstream problems including disease and toxicity. Our rapid response solutions were focused on communication and escalation to key decision makers, which yielded real-time mobilization and progressively more robust mobile communication technologies. The solution included using phones with cameras to get real-time information from damaged pump stations; a Microsoft SharePoint portal site to collect field reports, damage assessments, and recovery plans across public agencies and companies; a commercial product called NoteVault, which made it easier for inspectors to report from the field and enabled the NYCDEP to make faster and more accurate decisions.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

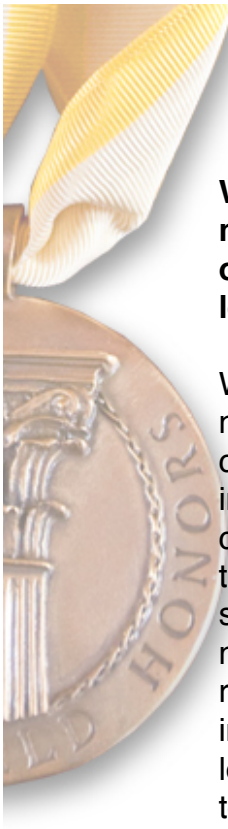
The project was implemented in phases in the weeks following Hurricane Sandy. The recovery and repair efforts completed prior to Thanksgiving continue to this day. In the days immediately following the storm, the team struggled with power outages and transportation challenges by gathering damage estimates on paper. A MiFi solution was used as internet hotspots for the initial group to start network collaboration in a matter of hours. As the team grew to include partners, vendors, and contractors, a switch was made to deploy a CradelPoint solution, leveraging a Verizon LTE account in order to deliver better coverage, speed, local printing and collaboration without compromising the security of NYCDEP data information. Within days of startup, Parsons was able to deploy an effective contract administration website, which allowed for electronic document collaboration among the growing number of subcontractors and other team members. The website was launched by leveraging Parsons' Project Collaboration Portal, which integrates Primavera’s Contract Manager with Microsoft SharePoint. The next step was to deploy mobile devices with internet connectivity, allowing the field team to conduct inspections quickly, effectively, and then allowing them to accurately upload the captured information to the portal for the next task. Motion Tablets (F5 and J3500 models) were identified, with the use of an Adobe form created for the project, which allows inspection results to be available on the contract management website in real-time. This approach was deemed to be so effective and streamlined that the NYCDEP plans on procuring five additional F5 tablets in the coming weeks to increase inspection activities as well as to flexibly control system access for when team members are added and redeployed.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

The initial phase helping restoration of critical wastewater treatment facilities is complete, but because cleanup and further restoration and refitting will continue for some time, the solution is still in an operational phase and is likely to continue. Having done much to evaluate, estimate, and document damage estimates, the remediation, once funding is received, will be more efficient and timely.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

Parsons, along with a partner firm, Dvirka and Bartilucci, mobilized more than 80 employees to provide emergency recovery and repair support services for over 30 pumping stations heavily damaged as a result of the storm's tidal surge. Staff were onsite within hours of the customer's initial request. Parsons' engineering, construction, and safety professionals provided 24/7 oversight for the implementation of temporary pumping and electrical services that restored partial operations to each station within a week of the storm. Several members of the team initially comprised locals from the community affected by the storm and they worked around the clock. In addition, some Parsons employees in New York City volunteered to help. One team member was evacuated from his home during the storm. Recognizing Parsons' performance under these extremely challenging conditions, NYCDEP asked the team in the following weeks to assess the condition of each affected pump station, identify necessary repairs, and develop emergency construction work orders to implement permanent repairs at 13 of the most heavily damaged stations, and provide further protection from similar events in the future. We deployed a right-sized solution of mobile forms and applications, collaboration, internet capability, and web services that combined the disaster recovery experience Parsons has gained over the years. On December 5 2012, Parsons received a letter from the Commissioner of the New York City Department of Environmental Protection expressing his gratitude for our team's outstanding work. In the letter he noted that, "Your aid in providing construction management services at pumping stations was instrumental in our recovery efforts. Thank you again for your exceptional work in response to Hurricane Sandy." Not only was service restored far more rapidly with the solution, but damage estimates were produced more efficiently and accurately.



Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

While the technologies used with the possible exception of newer network/wireless solutions may not individually be considered innovative, the combination of them coupled with Parsons' best practices certainly constitutes an innovative approach. Parsons solutions require rapid deployment to remote or challenging sites and use a phased approach due to the availability of the technology and the criticality of the need. The technology moves from nimble, short lead-time point solutions to a more unified, stable, and efficient solution in a measured process as the project progresses. This process, forged in disaster recovery efforts working in potentially remote or power, transportation and internet challenged regions could be applied in many other areas to reduce long lead times and delays caused by skilled knowledge workers not having the right tools at the right time.