

“The technology speaks for itself, it is intuitive to use and integrated into our existing business applications – ArcGIS, OneNote and AutoCAD.”
Mark Valentino GIS coordinator Freese & Nichols



Texas based Engineering firm simplifies the data collection and management process

Mark Valentino is the GIS Coordinator at Freese and Nichols, a Texas-based engineering and architecture firm.

Summary

Customer: Freese and Nichols, a Texas-based engineering and architecture firm.

Challenge: How to capture and share mission-critical field data that drives key decisions in a timely and efficient manner that, most importantly, our field teams would adopt.

Solution: The digital pen and paper software platform from Adapx

Benefits: “Using Capturx, our field teams no longer have to re-enter field data, and since data is shared more frequently and at a faster pace, we benefit from a more effective use of time and resources as well as a significant return on investment.”

Our firm specializes in structural engineering and architecture, inventory and asset management, as well as environmental science, and we collect a high volume of geospatial information for most of our projects. Typical engagements range from short-term 6 month contracts to 20 years and longer for government agencies, corporations, universities, and other organizations nationwide.

Project Scenarios

Our inventory and asset management project teams are comprised of field employees, engineers, planners and construction workers who take inventory of electrical, water, sewer and gas systems. These multi-disciplinary teams work on zoning and land use overlays in the planning phases and are often collecting inventory data such as manholes and power lines.

Our wetland delineation projects are a direct response to meet national permits section 404 of the Clean Water Act. Environmental engineers check for soil type among brush that is at least four feet tall. In addition, they take inventory of trees when they build a reservoir and they have to be careful not to destroy too much habitat while they're at it. This is monitored by government bodies, so each year we need to go back to run inventory of the trees.

Challenges

The biggest challenge we faced was how to capture and share mission-critical field data that drives key decisions in a timely and efficient manner that, most importantly, our field teams would adopt. Some of the personnel and logistical issues we were up against became even clearer as we attempted to automate some of our processes.

“Dependence of field engineers and staff on traditional pen and paper for data collection led to critical time lags between field data collection and entering information back into a central database...”



Capturx offered a solution that made sense in our work environment

Dependence of field engineers and staff on traditional pen and paper for data collection led to critical time lags between field data collection and entering information back into a central database for management to access and review. Inherent in the transcription process was the risk of errors in the data entry process due to difficulty reading multiple engineers' notes, papers getting wet or crumpled while out in the field making it hard to decipher.

We explored the use of tablet PCs, however these were not convenient for field staff to carry and they were simply not comfortable using them, not to mention the laptops were often dropped. The cost of each machine, plus repairs represented a big financial investment for us that did not pay off.

It became obvious very early on that the GPS devices didn't work well for staff because most of them are not very technical and found it hard to learn. As a result, they took more time to use and it required the engineer to get out of the car to wait for a signal. Varying field conditions from underground manholes to being knee deep in the wetlands also made it difficult to maneuver with the unit in hand, and in remote cow pastures or other areas, a signal was not available so they didn't work at all in those circumstances.

Employing these technologies was a challenge for us due to a resistance in changing familiar business practices to learn a new system of working. Since pen and paper prevailed as a common language across the team, we began to research other options.

Solution

After in-depth research and much discussion about field data management solutions, we realized that the digital pen and paper software platform from Adapx was an optimal solution for us. Their product, Capturx for ArcGIS Desktop, allows us to stick to business as usual by digitizing data captured with their pen, making transcription as quick and easy as docking the pen into a computer. In the near future, we also plan to use Capturx for AutoCAD so we can instantly mark up, annotate, and redline any CAD drawing, then upload the field data into any AutoCAD application as soon as we return to the office.

“We selected Capturx because we were looking to simplify our data collection and management process. The technology speaks for itself, it is intuitive to use and integrated into our existing business applications – ArcGIS, OneNote and AutoCAD.”

Results

“By automating the favored data collection method among our field staff, Adapx digital pen and paper solution was immediately well received and incredibly easy to use -- with no formal training.”

Thus far, our experience with deploying and using Capturx for ArcGIS Desktop has been very smooth with major upsides and no real downside. The intangible benefits relate primarily to how well both field and office-based staff have embraced the digital pen and paper software solution from Adapx. Using Capturx, our field teams no longer have to re-enter field data, and since data is shared more frequently and at a faster pace, we benefit from a more effective use of time and resources as well as a significant return on investment.