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PATRICK MARTY | ANTEA GROUP PROJECT MANAGER

## Antea® Group

*Environmental consulting company uses RFgen mobile data collection solutions to collect drinking water samples in the field from public water systems.*

### At a glance...

**Industry**  
Environmental  
Consulting

**Application**  
Field Service  
Inventory Control

**Environment**  
Legacy System with  
Microsoft Office  
Access Database

Antea Group is an international engineering and environmental consulting firm with over 100 offices on six continents. The firm works with clients in the petroleum and industrial sectors, as well as environmental regulatory groups. One of the firm’s clients, a state environmental regulatory agency, uses Antea Group to collect drinking water samples from local public water systems and deliver samples to a laboratory, that analyzes the samples for compliance with federal drinking water standards.

### The Challenge

Collecting water samples from every public water system is a huge job. Just twenty field samplers gather 40,000 to 60,000 water samples each year, across a vast state with a climate that can be harsh. Antea Group used an entirely paper-based system for sample collection.

Each water sample required the sampler to fill out a form in four copies. “They would handwrite the forms out in the field,” explained project manager Patrick Marty. “They would give one copy to the water system. One copy would follow the sample to the lab. One copy would stay with the sampler to go to the central office. Then one copy would go to the state. Once the form got to the central office, data would be manually entered into our database.”

“Typically all of the data would not get entered into the database for up to two weeks after the end of each month. If you wanted to work on any kind of sample statistics or collection rates, you were always two weeks behind,” acknowledged Marty.

Marty estimated that the state’s laboratory rejected about one percent of Antea Group’s water samples. Sometimes transcription errors occurred. Other times paperwork was turned in with data missing. Either way, these paperwork errors caused the entire sample to be rejected, so the sampler would have to return and recollect the sample.

“About 400-600 samples per year get rejected, and 95 percent of the rejections are due to paperwork errors. It is just ridiculous to continue to use paper, if that is what is leading to the overwhelming majority of rejections,” he added.

### The Solution

As the price of wireless tablet devices came down, Marty and the team at Antea Group started to explore how to use this technology to collect the sample information in the field and submit it to the central office without the tedious quadruplicate paper form. All they needed was a software solution to help them collect the right data.

“From a data standpoint, it made more sense to look at it from an inventory control perspective as opposed to software specifically designed for environmental sampling,” explained Marty.

The team looked at several potential solutions and selected RFgen because of its ease of use, flexibility and affordability. “A lot of the data we collect needs to meet quality assurance and quality control parameters.” parameters,” said Marty.

“Having the ability to have that logic built into the software during the data collection process really enhanced the accuracy of that sample record.”

With RFgen deployed on their tablets, samplers in the field can see only the locations that are eligible for sampling that day—a quality control measure to prevent them from resampling a water system prematurely. They select a location and receive a list of available samples on the tablet. They collect samples, noting the time and other measurements. RFgen has built in logic to perform some quality control checks on the measurements. For example, samplers must enter a valid pH value between 1 and 14, or the system refuses the entry.

When sampling is finished, the sampler gets a signature from a representative of the water system being sampled on the tablet and prints a receipt on a portable printer. Depending on whether the sampler is within Wi-Fi range, RFgen transmits the sample data to the central office database or stores the information on the tablet to be uploaded to the database once the sampler is back at the office.

**The Result**

The results have exceeded all expectations. On the first day, 400 samples instantly uploaded into the central office database without the need for any data manipulation or rekeying by the data manager. In the first full month of deployment, Antea Group reduced their sample rejection rate by over 95%!

“It has been astounding,” said Marty. He’s even gotten a few phone calls from samplers wanting to know what to do with the rest of the day. “Before they would spend hours sorting paperwork at the end of the day.

They had to complete the handwritten chain of custody to accompany the samples. But because of the reports that we can print out directly from the tablet, it prints the chain of custody documentation in seconds.”

Using RFgen on tablets has enabled Antea Group to:

- Ensure the correct samples were collected at each public water system.
- Track the chain of custody of water samples from collection to delivery at the lab.
- Collect signatures and provide printed receipts for the samples onsite.
- Eliminate two weeks per month of data entry and management at the central office.
- Reduce paperwork errors to lower the number of samples rejected by the lab.
- Run daily reports and keep tabs on total samples collected for the day, week and month.
- Reduce cost and advance the firm’s green initiatives by eliminating paper.

“There has been incredible timesaving. For the data manager who had been doing the data entry—it was all done,” explained Marty. “All of the data was entered on the first of the month. We are prepared to send our client the invoice immediately. That just shaved off two weeks of that person’s time each month.”

The number of rejections by the lab has decreased significantly, saving administrative and resampling time as well as the cost for those activities. RFgen has also empowered Antea Group to deliver more responsive client service to the state.

“After we implemented RFgen on the tablets, the client called me one day and asked if a high priority water system had actually been sampled. I was able to open the database and tell them it was sampled two days before,” Marty recalled.



“Having the ability to provide that information instantaneously was impressive. It kind of shocked them. It definitely shocked me, because before it would have taken two weeks to see that in the database.”

As a final benefit, moving to paperless data collection with RFgen has allowed Antea Group to reduce paper usage by up to 250,000 sheets of paper per year—a big bonus and cost savings for a green company. “As an environmental firm, you always have in the forefront of your mind to try and be resourceful. Whenever you successfully do that, it is a huge victory and a plus,” said Marty.

**About RFgen Software**

Incorporated in 1995, California-based RFgen Software provides flexible and reliable mobile supply chain solutions that solve real-world business challenges. As a certified Oracle, SAP, Microsoft, Deltek and Vocollect partner, RFgen actively seeks companies facing challenges managing their internal supply chain operations and solves them using real-world experience, industry best practices, and state-of-the-art technology. RFgen’s Mobile Framework division specializes in development tools for mobile, wireless and voice environments and provides open standards based connectivity to a multitude of systems (database, SOA, legacy, etc.). RFgen’s ERP Integration division focuses on providing certified, open-source transactions and integration expertise for Oracle E-Business Suite, Oracle JD Edwards, SAP, Deltek Costpoint and Microsoft Dynamics solutions.

RFgen’s Mobile Framework is an open systems development platform that speeds the path from idea, to proof-of-concept, to solution deployment. RFgen provides built-in, native functionality for extending real-time and on-demand access to enterprise data to almost any mobile device available today. RFgen’s Mobile Solutions are currently installed in more than 35 countries, in over 2,600 locations, and are supported by a certified group of over 125 solution partners.

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