

The Virtual Site Visit

How difficult is it to go digital with your ambient monitoring system? Easier than you think; and having those digital links in place can make your field work easier and faster, by allowing Virtual Site Visits™.

Case Study 1: NCore Site X*

Jim manages this NCore site just outside of a large urban metropolitan city, and recently upgraded the site to use the Agilaire Model 8832 data logger and a Sixnet wireless modem, provided by Agilaire. The Model 8832 is networked into five Thermo i-Series analyzers, and remotely polled by an AirVision server in the main office. The site will soon get delivery of a BAM-1020 with fine/coarse capabilities, which will also be directly polled by AirVision.

"I was amazed at how fast it went together. We had planned on two days to cut over the instrumentation from our old data logger. The software was preconfigured with the instrument settings, which only took an hour, but when we hooked everything up, it only took us about 40 minutes to have all the data coming in from our digital instruments. We were finished with the met instrument cut-over by lunch, spent the afternoon doing some training, and wrapped up a day early."

Jim is using the wireless connection to take remote access to a new level. "I can use a remote access app on my iPhone to look at the pollutant values and diagnostic measurements anytime I want to, anywhere. That will revolutionize the way I work."

Case Study 2: Polk County, IA:

Jennifer Bradley, Rebecca Peltzer, and Chad Hines were assigned the task in 2008 to make their multi-pollutant site all-digital. "The wiring in analog mode was a rats nest. We had several co-located analyzers and redundant analyzers, especially as we were making the transition from older analyzers and were running the analyzers alongside," Peltzer reported.

"We tried working with another digital data logger, but we could never get it to work properly and reliably. We opted to use the Agilaire Model 8832 and upgrade to AirVision because we were already familiar with their products, which made for an easy transition."

The site is now networked via Ethernet/Modbus, and connected through a county-provided LAN network. The staff at Polk County felt the lessons learned would be so useful to other agencies, that they presented their experiences at EPA conferences in 2009 and 2010.

"I've had people say it's the most useful presentation they saw the whole conference," Bradley reported. "That's not surprising because so many agencies are facing the task of switching over to digital and have no idea where to begin. We've been very pleased with our experience with AirVision."



* State ethics policy prohibited this user from naming his agency / site, but he wanted to share his story.

Case Study 3: Northern Sonoma County APCD Healdsburg, CA:

In 2009 when Air Quality Specialist George Erdman took over management of his air district's four station monitoring network located north of the SF Bay Area in Sonoma County, it was clear the entire 35 year old network needed to be overhauled. Not only did equipment need replacing but the way in which data were collected, reviewed and reported needed modernizing as well.

After extensive evaluation a real time network was designed around Agilaire's Air Vision software, 8832 data loggers and new monitors using ethernet connectivity to provide digital data collection and management. A primary focus in the network's design was the implementation of real time particulate monitoring provided by three new MetOne BAM1020's.

"BAM's are intricate pieces of equipment that need attention and close monitoring. BAM data strings incorporate a lot of internal error codes and measurements that are great for diagnostics but that information isn't available until that hour's data is collected and manually reviewed. I want to know when something isn't working as soon as possible so we can get out and fix it before a more extensive data loss occurs. I needed a system that would give me that kind of instant notification."

Erdman's BAMs and Agilaire data loggers are polled via TCP/IP from a virtual server running AirVision over the County's LAN/WAN network. Data is polled and processed by the Air Vision server every 15 minutes and any notifications are sent to his office at least once every hour. With the BAM's in mind he took it to another level.

"I added the ADVP module to AirVision so I could create special checks on the BAM data strings for specific operating conditions and error codes. This way AirVision can notify me immediately via email when a problem occurs. It even applies the appropriate null codes and annotations to the final data based on the BAM error codes. Also because the email notifications I've configured in AirVision are very specific as to the nature of the problem our techs don't waste time with additional diagnostics; they can get right on making the necessary repairs or adjustments."



Erdman also has his ozone analyzers digitally networked through his 8832's and uses the ADVP to automatically perform validation checks on those instruments as well. "The Automatic Data validation Processor is very cool. There is a lot one can do with it. In fact from what I've seen its use is limited only by one's imagination...and I have a pretty big imagination."

The Future: Virtual Site Visits?

AirVision already includes a drill-down capability within its QA tools to easily drill-down from a suspect hour to the relevant analyzer diagnostic parameters (flows, pressures, etc), or to drill down to individual minute averages.

Agilaire is working with these and other customers to develop specialized tools and reports to improve the Virtual Site Visit™, such as a single-page review of a site's performance and data quality. Coupled with remote access to limit site visits to required physical maintenance activities, the Virtual Site Visit will make agencies more effective and productive.

For More Information, Contact:



2904-B Tazewell Pike, Suite A
Knoxville, TN 37918

865-927-9440 phone
865-927-9552 fax

info@agilairecorp.com email
www.agilairecorp.com web